



Cisco Video Surveillance Manager Getting Started Guide, Release 4.2/6.2

Release 4.2/6.2

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Text Part Number: OL-19733-01

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

CCDE, CCENT, Cisco Eos, Cisco Lumin, Cisco Nexus, Cisco StadiumVision, Cisco TelePresence, Cisco WebEx, the Cisco logo, DCE, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn and Cisco Store are service marks; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0809R)

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

Cisco Video Surveillance Manager Getting Started Guide, Release 4.2/6.2, Release 4.2/6.2
© 2009 Cisco Systems, Inc. All rights reserved.



CONTENTS

Preface v

Overview v

Organization v

Obtaining Documentation, Obtaining Support, and Security Guidelines vi

CHAPTER 1

Overview 1-1

How to Use this Manual 1-1

Planning for Your Installation 1-2

Items Required for Installation 1-3

Information Required for Configuring a Multi Services Platform 1-4

Information Required for Configuring VSM 1-5

Introducing the Cisco Video Surveillance System 1-7

Cisco VSM 1-8

Cisco Multi Services Platform 1-9

Cameras 1-10

Video Encoders 1-10

Client PCs 1-10

Deployment Scenarios 1-11

Single Site Deployment 1-12

Multiple Site Deployment with Centralized VSM Management 1-13

CHAPTER 2

Setting Up and Configuring the Multi Services Platform 2-1

Unpacking the Multi Services Platform 2-2

- Mounting the Multi Services Platform in a Rack 2-4
 - Preparing to Rack Mount 2-4
 - Rack Mounting 2-6
- Installing Hard Drives 2-10
- Connecting to Power, the Network, and External Devices 2-11
- Performing the Initial Configuration of the Multi Services Platform 2-11
 - Powering On the System and Accessing the YaST Control Center 2-12
 - Configuring Network Settings 2-15
 - Setting the System Time 2-21
 - Configuring NTP 2-24
- Where to Go from Here 2-29

CHAPTER 3

- Configuring VSM 3-1**
 - Setting the VSOM Log In Page as the Default Web Page 3-1
 - Configuring VSM 3-4
 - Accessing Video Surveillance Operations Manager 3-5
 - Adding Servers 3-6
 - Adding Video Encoders 3-11
 - Adding Analog Cameras 3-17
 - Adding IP Cameras 3-26
 - Configuring Archives 3-37
 - Where to Go from Here 3-46



Preface

Overview

This manual is intended for those who will install and configure a video surveillance solution that includes Cisco Video Surveillance Manager (VSM) release 4.2/6.2 software components that are installed on Cisco Multi Services Platform devices.

Organization

This manual is organized as follows:

Chapter 1, “Overview”	Explains how to use this manual, introduces the Cisco Video Surveillance Manager system and components, explains how to plan for an installation, and describes various deployment scenarios
Chapter 2, “Setting Up and Configuring the Multi Services Platform”	Provides instructions for installing, setting up, and performing the initial configuration of the Cisco Multi Services Platform
Chapter 3, “Configuring VSM”	Describes how to VSM for operation in your deployment

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information about obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.



CHAPTER 1

Overview

This chapter explains how to use this manual and how to plan for an installation. It also provides overviews of the components that make up a Cisco Video Surveillance Manager (VSM)-based video surveillance system and describes common options for deploying such a system. After reviewing this information, you will be ready to install and configure your system.

This chapter includes these topics:

- [How to Use this Manual, page 1-1](#)
- [Planning for Your Installation, page 1-2](#)
- [Introducing the Cisco Video Surveillance System, page 1-7](#)
- [Deployment Scenarios, page 1-11](#)

How to Use this Manual

This manual introduces you to the Cisco VSM environment and guides you through the installation and initial configuration of the Cisco VSM software and the Cisco Multi Services Platform hardware. It also provides reference information for ongoing administration and operation of the system.

[Table 1-1](#) suggests how to use this manual. It describes how to obtain overview information and summarizes the activities that you perform when you first deploy VSM and its associated hardware and devices. It also provides information about performing ongoing system administration, management, and operation activities.

Table 1-1 *How to Use this Manual*

	Activity	Reference
Learn about the system		
Step 1	Review the introduction to the Cisco video surveillance system components, including VSM software, Multi Services Platform devices, and other devices	See the “Introducing the Cisco Video Surveillance System” section on page 1-7
Step 2	Review options for deploying a VSM system	See the “Deployment Scenarios” section on page 1-11
Prepare for deployment		
Step 3	Plan for your installation and collect the information that you will require	See the “Planning for Your Installation” section on page 1-2
Install, set up, and configure the system		
Step 4	Install, set up, and perform the initial configuration of your Cisco Multi Services Platform device or devices	See Chapter 2, “Setting Up and Configuring the Multi Services Platform”
Step 5	Set the VSOM Log In page to be the default page that appears when you access the MSP on which VSOM runs.	See the “Setting the VSOM Log In Page as the Default Web Page” section on page 3-1
Step 6	Perform the basic configuration of VSOM, which includes providing information about the VSM software, video encoders, and cameras that will operate in your VSM deployment, and scheduling video recording	See the “Configuring VSM” section on page 3-4

Planning for Your Installation

The following sections describe items and information that may be required during an installation. You may find it convenient to collect these items and as much of the information as you can before you begin the installation.

- [Items Required for Installation, page 1-3](#)

- [Information Required for Configuring a Multi Services Platform, page 1-4](#)
- [Information Required for Configuring VSM, page 1-5](#)

Items Required for Installation

[Table 1-2](#) describes the items that a typical installation requires.

Table 1-2 **Required Items**

Item	Description
Items required for all installations	
Power source and power protection.	The Multi Services Platform connects to a standard 110 volt AC outlet.
Network connectivity.	The Multi Services Platform connects to your network with a standard Category 5 network cable. The network should be set up and configured before you begin.
Keyboard, monitor, and mouse.	Performing the initial configuration of the Multi Services Platform requires you to connect a keyboard, monitor, and mouse to the device. You can use a standard PC monitor. The keyboard and mouse can have standard 6-pin or USB connectors.
Items required for rack mounting a Multi Services Platform	
Rack.	The device mounts in a standard 19-inch wide rack. The rack should be between 30 and 33 inches deep. For information about appropriate racks and environments, see the “Preparing to Rack Mount” section on page 2-4

Table 1-2 **Required Items**

Item	Description
Medium Phillips-head screwdriver.	Used to attach rack rails to the Multi Services Platform chassis.
Assistance from at least one other person.	A Multi Services Platform is heavy.

Information Required for Configuring a Multi Services Platform

Table 1-3 lists the information that you need as you perform the initial configuration of a Multi Services Platform. You may find it convenient to determine and record this information before you begin the configuration procedure. You can obtain this information from your network administrator.

When you configure an MSP, make a note which VSM components will run on it. This information will help you assign the appropriate IP address or host name to the MSP.

Table 1-3 **Information for Multi Services Platform Configuration**

Description	VSM components to run on this MSP.
Value	Component (check all that apply): <input type="checkbox"/> VSMS <input type="checkbox"/> VSVM <input type="checkbox"/> VSOM
Description	IP address for the Multi Services Platform.
Value	IP address _____
Description	Host name for the Multi Services Platform.
Value	Host name _____
Description	Subnet mask for the Multi Services Platform.
Value	Subnet mask _____

Description	Default gateway for the Multi Services Platform (if needed).
Value	Default gateway _____
Description	Domain name for the Multi Services Platform (if needed).
Value	Domain name _____
Description	IP addresses of up to 3 DNS servers for the Multi Services Platform (if needed).
Value	DNS Server IP addresses _____
Description	Domains for searching (if needed).
Value	Domains _____
Description	IP address or host name of your NTP server (required if you will configure NTP for the Multi Services Platform).
Value	IP address _____
	Host name _____

Information Required for Configuring VSM

[Table 1-4](#) provides an overview of the information that you may need when you perform the basic VSM configuration tasks. You may find it convenient to determine and record this information before you begin the VSM configuration procedure.

Table 1-4 Overview of Basic VSM Configuration Tasks

Configuration Task	Required Information
Adding servers—Configure information about each Multi Services Platform that will run VSMS and each Multi Services Platform that will run VSVM	<p>Obtain the IP address or host name of each server that you are adding.</p> <p>All VSOM clients that access a Multi Services Platform that runs VSMS must use same IP address to access that Multi Services Platform. You must configure a host name rather than an IP address for access to VSMS if clients will access VSMS through a system that translates the VSMS IP address, such through another network or through a firewall that performs network address translation (NAT). In this case, make sure that each client can resolve the host name. For example, you could configure DNS or edit the Windows Hosts file on each VSOM client (see your DNS or Windows documentation for details).</p>
Adding video encoders—If your deployment includes analog cameras, configure information about video encoders, which convert analog video into digital video that can be used by VSM.	<p>Obtain the following information for each video encoder:</p> <ul style="list-style-type: none"> • Model number. • IP address or host name. • User name required to access the device (if applicable). • Password required to access the device (if applicable).

Table 1-4 Overview of Basic VSM Configuration Tasks (continued)

Configuration Task	Required Information
Adding analog cameras— Configure information about each analog camera in your VSM deployment.	<p>Obtain the following information for each analog camera:</p> <ul style="list-style-type: none"> • Video encoder that it connects to. • Video encoder input port that it connects to • VSMS that is to manage the camera. <p>In addition, determine the video encoding type, video format, video resolution, transport protocol, bit rate, frame rate, and quality that you want for the video stream from the camera.</p>
Adding IP cameras—Configure information about each analog camera in your VSM deployment.	<p>Obtain the following information for each analog camera:</p> <ul style="list-style-type: none"> • Model. • IP address or host name. • User name required to access the device (if applicable). • Password required to access the device (if applicable). <p>In addition, determine the video encoding type, video format, video resolution, transport protocol, bit rate, frame rate, and quality that you want for the video stream from the camera.</p>
Configuring archives— Configure schedules for surveillance recording.	Decide when you want to record video. You can choose to record at certain times, on a weekly schedule, or constantly.

Introducing the Cisco Video Surveillance System

A VSM-based video surveillance system operates on an IP network and consists of a variety of hardware components. [Table 1-5](#) lists the more common video surveillance components that may be included in a deployment and provides a brief description of each one. This table also includes references to sections that

provide additional overview information about each component. Your IP network may also include switches, routers, servers, and other network infrastructure hardware and software components.

Table 1-5 *Cisco Video Surveillance System Components*

Component and Reference	Description	Provided By
Cisco VSM, page 1-8.	A suite of software components that enable configuration, administration, management, and operation of video surveillance solutions.	Cisco.
Cisco Multi Services Platform, page 1-9.	Servers that run VSM software and provide video recording and storage.	Cisco.
Cameras, page 1-10.	Available as analog or IP devices, cameras capture video surveillance that you can view and record.	Cisco or third parties.
Video Encoders, page 1-10.	Process incoming video signals from analog cameras and convert them to IP video signals.	Cisco or third parties.
Client PCs, page 1-10.	VSOM client PCs provide access the VSOM web-based interface. VSVM client PCs provide access to and control of live and recorded video.	Third parties.

Cisco VSM

Cisco VSM comprises a suite of software modules that function with other devices in an IP network to support video transmission, monitoring, recording, archiving, and display. In addition, VSM provides a comprehensive set of features and functions for configuring, administering, managing, and performing day-to-day operations of a video surveillance solution.

The VSM software components include the following:

- Cisco Video Surveillance Media Server (VSMS)—Manages cameras, records and archives video, and provides access to live and recorded video.
- Cisco Video Surveillance Operations Manager (VSOM)—Provides a web-based user interface for configuring, managing, displaying, and controlling video throughout an IP network. Also provide features for managing video devices and users.
- Cisco Video Surveillance Virtual Matrix (VSVM)—Enables the display and control of live and recorded video on remote monitors.

Cisco Multi Services Platform

The Cisco Multi Services Platform includes various server models that are intended for use in IP video surveillance environments. Designed for seamless operation with VSM, the Multi Services Platform runs the VSM software and provides storage for surveillance recordings.

Each Multi Services Platform consists of a chassis, which includes one or two power supplies (depending on the model and options), fans, and other components, and an array of hard drives for storage of surveillance recordings.

The Multi Services Platform is available in the following models:

- 1 rack unit (RU) Multi Services Platform, model CIVS-MSP-1RU—Supports up to four 750 GB or four 1 TB SATA hard drives and one full height, 3/4 length PCI-x or PCI-e card.
- 2 RU Multi Services Platform, model CIVS-MSP-2RU—Supports up to twelve 750 GB or twelve 1 TB SATA hard drives and up to three full length, half height PCI-e cards.
- 4 RU Multi Services Platform, model CIVS-MSP-4RU—Supports up to twenty-four 750 GB or twenty-four 1 TB SATA hard drives, and up to three full length, full height PCI-e cards or up to 2 full length, full height PCI-x cards.

For more detailed information, see *Cisco Physical Security Multi Services Platform User Guide*.

Cameras

Cameras provide video images and, depending on the camera, audio. VSM supports a wide variety of fixed and movable pan, tilt, zoom (PTZ) cameras of these types:

- Analog cameras—Capture video and (on some models) audio and output this information in one or two analog streams (depending on the model). An analog camera requires a video encoder to convert this stream to a digital stream that can be processed by the IP network and VSM components.
- Digital cameras—Also called IP cameras, these devices capture video and output this information in one or two digital streams (depending on the model).

For details about the features, functions, placement, installation, and operation, of a camera, see the documentation that is provided for the camera.

Video Encoders

Video encoders convert video streams from analog cameras into IP packets, compress these packets, and forward them to the network. An analog camera must be connected to a video encoder to operate with VSM.

Client PCs

Client PCs are computers that can connect to the network on which VSM runs and that you use to access various VSM features and perform various VSM operations. These PCs are identified as follows:

- VSOM client PCs—Provide access to the VSOM web-based interface that you use to configure, manage, and operate VSM.
- VSVM client PCs—Provides interactive access to live and recorded video, which you can display on configured monitors.

One PC can function as both a VSOM client and VSVM client simultaneously.

Cisco has verified the successful operation of dedicated client PCs that are configured as follows:

- Operating system—Windows XP Professional with Service Pack 2

- CPU—Intel Core 2 Quad Q9650, 3.0 Ghz (Hewlett-Packard xw4600 workstation)
- Memory—4 GB DDR2 (3.5 GB usable)
- Graphics card—ATI4850, 512 MB
- Browser—Microsoft Internet Explorer 6 or 7
- Network connection—Gigabit Ethernet (GigE)

For standard definition video streams, client PCs with this configuration support the loads that [Table 1-6](#) shows. For high definition video streams, client PCs with this configuration support the loads that [Table 1-7](#) shows.

Table 1-6 *Maximum Loads for Client PCs for Standard Definition Video Streams*

	Motion JPEG	MPEG-4	H.264	Mixed
Video streams	16	16	16	16
Resolution	VGA	4CIF	4CIF	VGA/4CIF
Frame rate	30 fps	30 fps	30 fps	30 fps
Bit rate	6 Mbps	3 Mbps	3 Mbps	2 to 3 Mbps

Table 1-7 *Maximum Loads for Client PCs for High Definition Video Streams*

	H.264 HD	H.264 HD	H.264 HD
Video streams	6	4	2
Resolution	720p	1080p	1080p
Frame rate	30 fps	30 fps	30 fps
Bit rate	4 Mbps	4 Mbps	12 Mbps

Deployment Scenarios

VSM can be deployed in wide variety of ways. Scenarios range from a basic system in which all VSM software components run on one Multi Services Platform to large systems deployed across many locations.

The following sections provide overviews of common VSM deployment scenarios. For more information about these and other deployment options, refer to VSM design guides or contact Cisco or your Cisco partner.

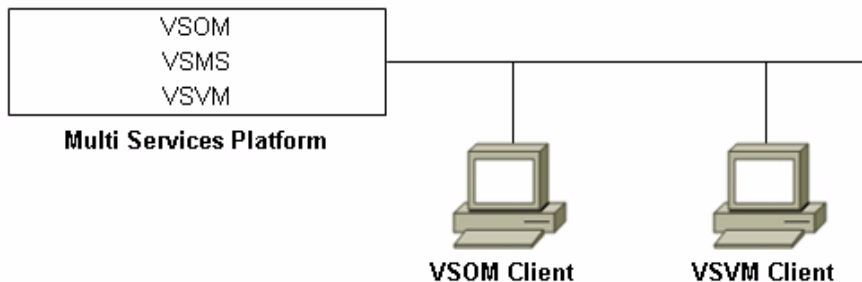
- [Single Site Deployment, page 1-12](#)
- [Multiple Site Deployment with Centralized VSM Management, page 1-13](#)

Single Site Deployment

In a single site deployment, one or more Multi Services Platforms are located at the same facility. If there are two or more Multi Services Platforms, they reside on the same local area network (LAN). Client system can access VSM if they can connect to that network.

In the simplest single-site scenario, one Multi Services Platform runs all VSM components (VSOM, VSMS, and VSVM). A deployment of this type might be appropriate for a small deployment of up to a few dozen cameras. [Figure 1-1](#) illustrates this scenario.

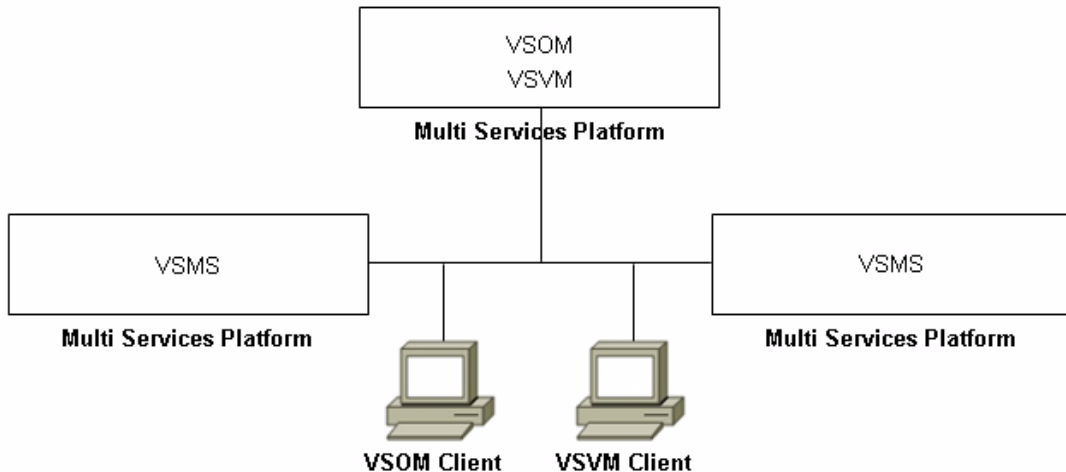
Figure 1-1 *Single Site Deployment with One Multi Services Platform*



A single site deployment can include many Multi Service Platforms. In this situation, VSOM runs on one Multi Service Platform, either by itself or with other VSM software. The other Multi Service Platforms run VSMS. A deployment of this type allows scaling the solution to address wiring requirements and to support a large number of cameras and increased retention rates.

[Figure 1-2](#) illustrates a single site deployment with three Multi Service Platforms, one that runs VSOM and VSVM, and two that run VSMS.

Figure 1-2 *Single Site Deployment with Several Multi Services Platforms*



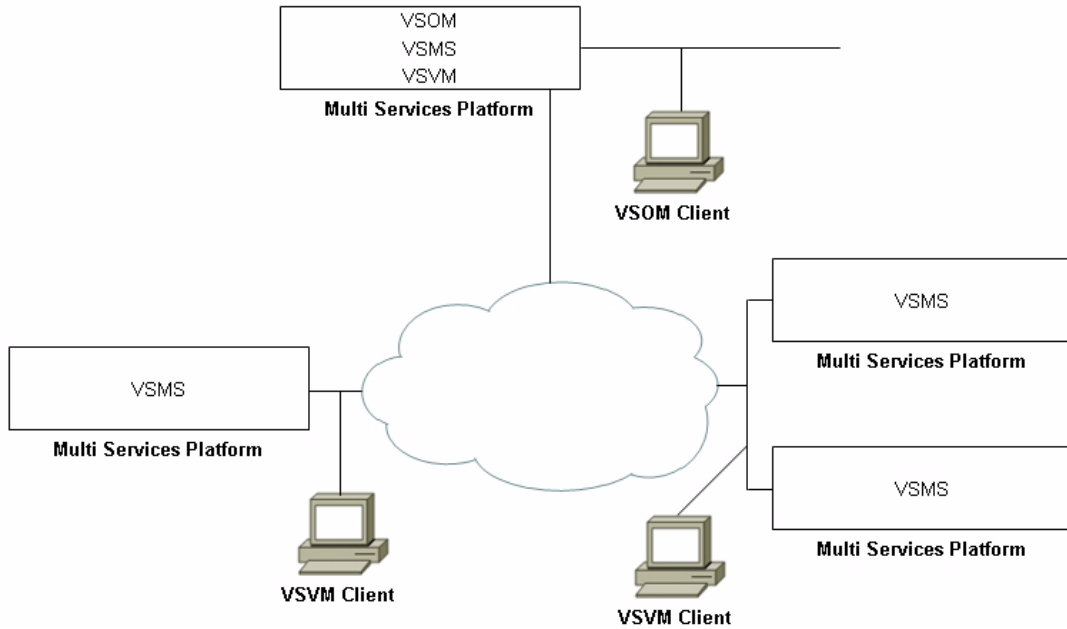
Multiple Site Deployment with Centralized VSM Management

In a multiple site deployment, Multi Services Platforms at separate locations connect through a wide area network (WAN). Each location can have one or more Multi Services Platforms and client systems can access VSM if they can connect to the network. These deployments can be designed for centralized or distributed management of VSM and requires WAN link connection speeds that can support the bandwidth that you require.

In a centralized VSM management deployment, VSOM runs on one Multi Service Platform, either by itself or with other VSM software. The other Multi Service Platforms can run VSMS and VSVM in any combination. A deployment of this type might be appropriate for an enterprise with distributed locations that wants to manage and operate VSM software from a central location.

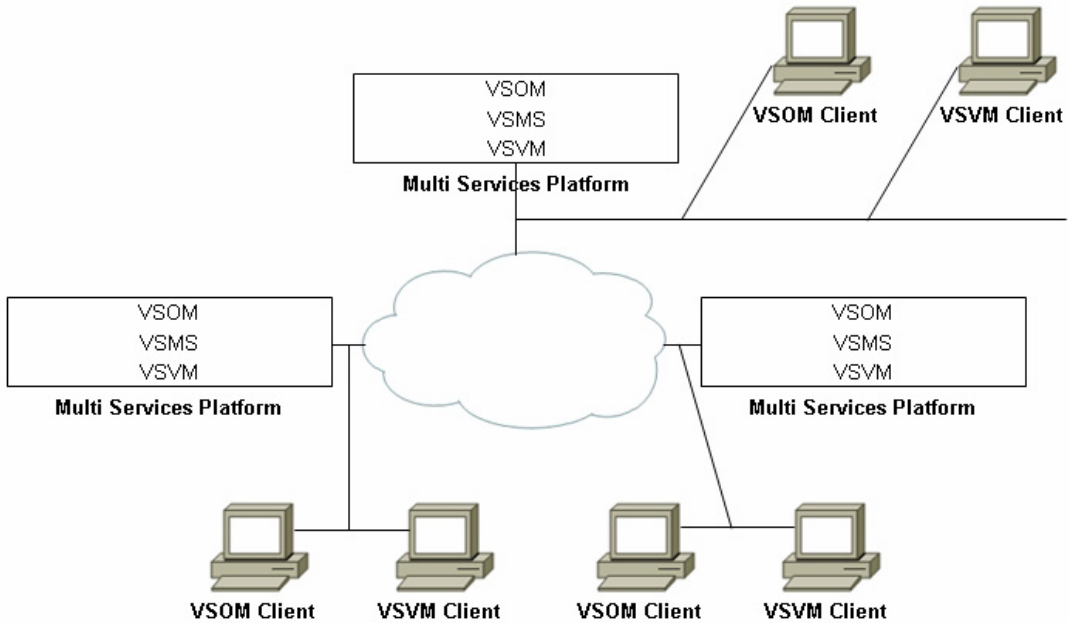
[Figure 1-3](#) illustrates an example of a basic multiple site deployment with centralized VSM management.

Figure 1-3 Multiple Site Deployment—Centralized VSM Management



In a distributed VSM management deployment, one Multi Services Platform at each site runs VSOM. Other VSM software may also run on that server, or may run in any combination on other Multi Services Platforms at the site. VSM is configured and managed independently at each site. A deployment of this type might be appropriate for an enterprise with autonomous branch locations that wants to manage and operate VSM locally but that also wants access to VSM at each site.

Figure 1-3 illustrates an example of a basic multiple site deployment with distributed VSM management.

Figure 1-4 Multiple Site Deployment—Distributed VSM Management



CHAPTER 2

Setting Up and Configuring the Multi Services Platform

The Cisco Multi Services Platform comprises a set of server models that run Cisco VSM software and provide recording and storage of streams from surveillance cameras. The servers are available in 1 RU, 2 RU, and 4 RU models, and provide varying amounts of video storage. For more information, see the [“Cisco Multi Services Platform” section on page 1-9](#).

The chapter guides you through installing, setting up, and performing the initial configuration of your Cisco Multi Services Platform. After you complete the procedures that this chapter describes, you can configure the Cisco VSM software and begin to operate your video surveillance system.

Installation, set up, and configuration involves a series of steps that you perform in sequence. [Table 2-1](#) provides an overview of these steps. The rest of this chapter includes detailed procedures for each step.

Table 2-1 *Overview of Installation and Set Up Tasks*

	Task	Description
Step 1	Unpack the Multi Services Platform.	Remove the Multi Services Platform components from the shipping boxes and make sure that you have received all items.
Step 2	Rack mount the Multi Services Platform.	Attach rack rails to the Multi Services Platform and install the device in a 19 inch rack.

Table 2-1 Overview of Installation and Set Up Tasks (continued)

	Task	Description
Step 3	Install hard drives, if needed.	If you received the Multi Services Platform 2 RU or 4 RU model, install the hard drives that you received with the server. Hard drives are preinstalled in the 1 RU model.
Step 4	Connect the Multi Services Platform to power, your network, and control devices.	Connect a monitor, keyboard, and mouse to the server, and connect the server to power and to your network.
Step 5	Configure basic settings on the Multi Services Platform.	Access the YaST Control Center on the Multi Service Platform and configure network settings, the system time, and (optionally) NTP settings.

This chapter contains the following sections, which include detailed instructions for installing, setting up, and configuring the Multi Services Platform:

- [Unpacking the Multi Services Platform, page 2-2](#)
- [Mounting the Multi Services Platform in a Rack, page 2-4](#)
- [Installing Hard Drives, page 2-10](#)
- [Connecting to Power, the Network, and External Devices, page 2-11](#)
- [Performing the Initial Configuration of the Multi Services Platform, page 2-11](#)
- [Where to Go from Here, page 2-29](#)

Unpacking the Multi Services Platform

A Multi Services Platform ships in one, two, or three boxes, depending on the model and number of hard drives that your ordered:

- 1 RU model—Ships in one box that contains the chassis with hard drives preinstalled.

- 2 RU model—Ships in two boxes. One box contains the chassis and one box contains from 4 to 12 hard drives.
- 4 RU model—Ships in two or three boxes. One box contains the chassis. If you ordered up to 12 hard drives, they are included in one additional box. If you ordered more than 12 hard drives, they are included in two additional boxes.

To unpack the Multi Services Platform, follow these steps:

Procedure

- Step 1** If your shipment includes two or three boxes, make sure that the serial number that is printed on the shipping label on each box is the same.



Caution

If the serial numbers are not identical, contact Cisco or your Cisco partner before you set up the system. Operating a Multi Services Platform with mismatched components causes the system to rebuild the disk array and prevents the system from operating.

- Step 2** Carefully open each shipping box and remove its contents.

- Step 3** Make sure that the box in which the chassis shipped includes these items:

- Rail assemblies for rack mounting
 - SUSE license and activation packet
 - *Regulatory Compliance and Safety Information* document
 - Envelope that contains the following:
 - *Getting Started with Cisco Video Surveillance Manager Products*
 - Recovery disk
 - End User License and Warranty Information disk
 - One or two power cables (depending on how many power supplies you ordered for your server).
 - Screws and washers for rack mounting
-

**Note**

If your shipment includes more than one Multi Services Platform, make sure that the serial number of each Multi Services Platform matches the hard drives that are intended for it, as described in the previous procedure.

Mounting the Multi Services Platform in a Rack

The Multi Services Platform is designed to be installed in a standard 19-inch rack. The chassis ships with one set of rail assemblies and the mounting screws and washers that you need to secure the system in a rack.

You also will need a medium size Phillips Head screwdriver and at least two people to position the Multi Services Platform in a rack.

The following sections describe how to rack mount the Multi Services Platform:

- [Preparing to Rack Mount, page 2-4](#)
- [Rack Mounting, page 2-6](#)

Preparing to Rack Mount

Before you install the Multi Services Platform in a rack, review the following guidelines:

Choosing a Location

- Leave approximately 25 inches of clearance in front of the rack to enable you to open its front door completely, if applicable.
- Leave approximately 30 inches of clearance in back of the rack to allow for sufficient air flow and ease of servicing.
- The Multi Services Platform is intended for installation in a restricted access location, such as a dedicated equipment room or service closet.
- Make sure that the rack is in an environment that meets these requirements for the Multi Services Platform:
 - Operating temperature—50 to 95 °F (10 to 35 °C)
 - Operating humidity—8 to 90% non-condensing

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are extended to the floor with the full weight of the rack resting on them.
- In a single rack installation, attach stabilizers to the rack.
- In a multiple rack installation, couple the racks to each other.
- Make sure that the rack is stable before extending a component from the rack.
- Extend only one component from a rack at a time. Extending two or more components may cause the rack to become unstable.

General Precautions

- Determine the placement of each component in the rack before you install the rails.
- Install the heaviest components on the bottom of the rack first, then work up.
- Use a regulating uninterruptible power supply (UPS) to protect a device from power surges, and voltage spikes and to keep the device operating if a power failure occurs.
- Close the front door of the rack, if applicable.
- A Multi Services Platform with hard drives and rails installed is heavy. Make sure that you have assistance when moving it and placing it into a rack.

Rack Mounting Considerations

- Make sure to install the Multi Services Platform in an environment that is within its rated operating temperature and humidity range (see *Cisco Physical Security Multi Services Platform User Guide*). If the Multi Services Platform is installed in a closed or multi-unit rack assembly, be aware that the ambient operating temperature of the rack environment may be greater than the ambient temperature of the room.
- Make sure that there is sufficient air flow for safe operation of the Multi Services Platform.
- Leave at least 1 rack unit (RU) of space between devices in the same rack.
- Mount the Multi Services Platform in a manner that ensures that a hazardous condition does not arise due to uneven mechanical loading.

- Consider the connection of equipment to the power supply circuitry and the effect that possible overloading of circuits may have on overcurrent protection and power supply wiring. Consider equipment nameplate ratings when addressing this issue.
- Maintain a reliable ground. The rack itself should be grounded. Pay particular to power supply connections other than direct connections to the branch circuit (for example, power strips).

Rack Mounting

To install the Multi Services Platform in a rack, perform the following procedure. You will need a medium-size Phillips-head screwdriver to secure the rails to the Multi Services Platform chassis and to the rack.



Note

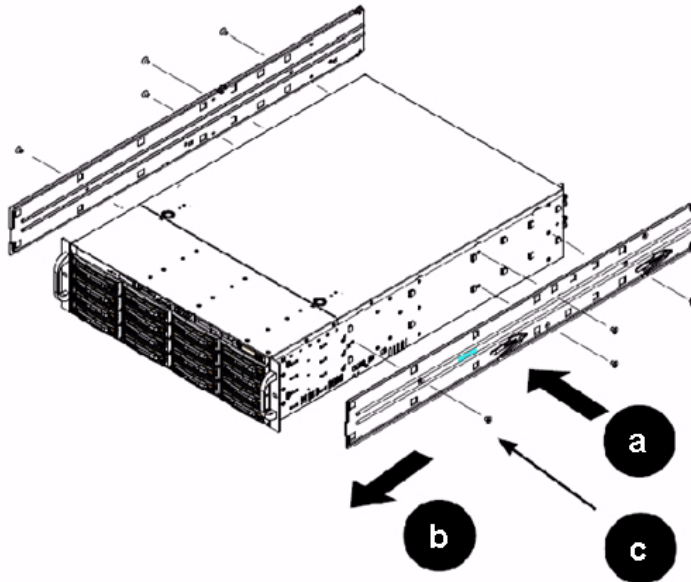
- There are a variety of racks available. The procedure for your rack may be slightly different than the following instructions. See the installation instructions for your rack for additional information.
- The figures in these sections illustrate the 4 RU model. The procedures are similar for 1 RU and 2 RU models.

Procedure

Step 1

Attach the inner rack rails to the Multi Services Platform.

There are two inner rack rails. One attaches to each side of the Multi Services Platform. To attach these rails, see [Figure 2-1](#) and perform the actions that follow.

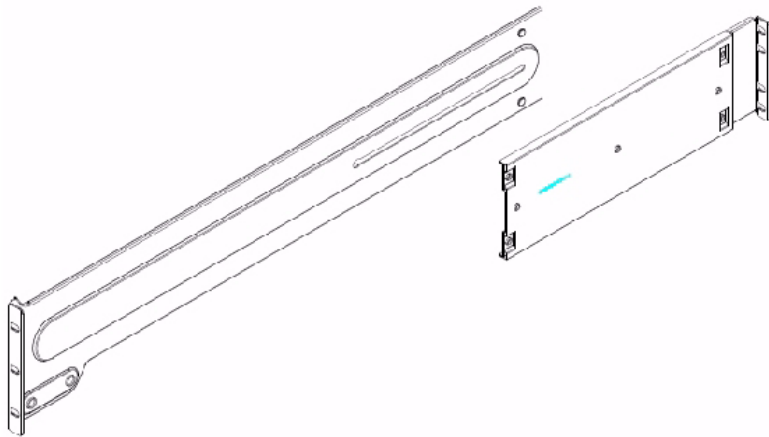
Figure 2-1 Attaching Inner Rack Rails

- a. Place the inner rack rail on one side of the chassis, aligning the hooks of the chassis with the holes in the rail.
 The rail marked R attaches to the right of the chassis as you face the front of the chassis. The rail marked L attaches to the left. The wheels on the rails should face away from the chassis and the locking tabs on the rails should face the bottom of the chassis.
- b. Slide the rail toward to front of the chassis.
- c. Secure the rail to the chassis with four 1/2 inch (6.35 mm) screws (provided).
- d. Repeat this step for the other inner rack rail.

Step 2 Attach the outer rack rails to the Multi Services Platform.

There are two outer rack rails. One attaches to each side of the rack and each connects to an inner rack rail to hold the Multi Services Platform in place. Each outer rack rail consists of two brackets. The brackets allow the rails to extend between 30 inches and 33 inches so that they can fit racks of various sizes. To attach these rails, see [Figure 2-2](#) and perform the actions that follow.

Figure 2-2 **Outer Rack Rails**

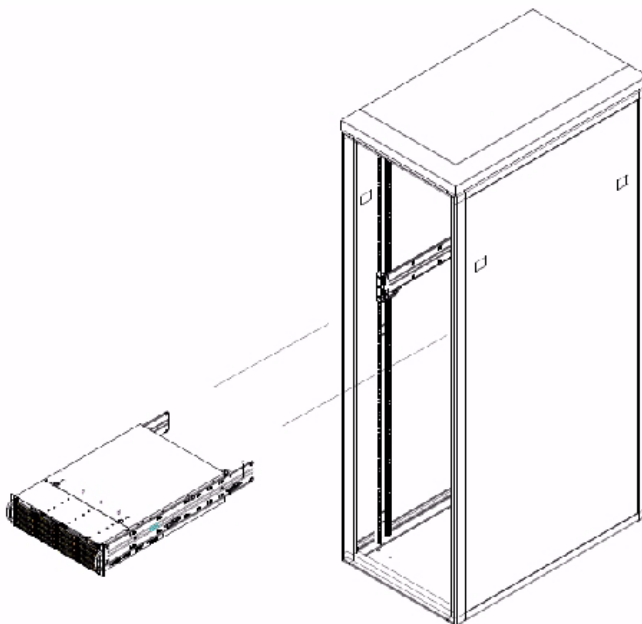


- a. Make sure that the right short and long outer rack rail brackets are connected to each other and that the left short and long outer rack rail brackets are connected to each other.

The brackets are marked R and L. To connect the brackets, align the pin on the small bracket with the slot on the corresponding large bracket, align the two pins on the large bracket with the slots on the small bracket, and slide the brackets together.

- b. Attach the outer rack rails to the rack, following these guidelines:
 - The outer rack rail marked R attaches to the right of the rack as you face the front of the rack. The one marked L attaches to the left of the rack.
 - The long outer bracket faces the front of the rack and the short bracket faces the rear of the rack.
 - The bracket flanges overlap the outer edge of the rack mounting rail.
 - Secure the long bracket to the front of the rack with two 1/2 inch (12.7 mm) screws, and secure the short bracket to the rear of the rack with three 1/2 inch (12.7 mm) screws. The screws are provide with your Multi Services Platform.

Step 3 Place the Multi Services Platform in a rack by referring to [Figure 2-3](#) and performing the actions that follow.

Figure 2-3 *Placing the Server in a rack*

- a. Confirm that the inner and outer rack rails are installed on the Multi Services Platform and on the rack.
- b. Align the chassis inner rack rails with the front of the outer rack rails.
- c. Slide the chassis inner rack rails into the outer rack rails, keeping even pressure on both sides of the device.

You may have to depress the locking tabs on the inner rack rail when inserting the device.

- d. (Optional) Insert and tighten the thumbscrews that hold the front of the server to the rack.

Installing Hard Drives

If you ordered a Multi Services Platform 2 RU or 4 RU model, you must install the hard drives that you ordered for the system. To install hard drives, perform the following procedure. Each of the hard drives that you received should be the same, so you can install them in any order and into any open slot on the front of the Multi Services Platform.

**Caution**

Make sure that each hard drive includes a label with a serial number that is identical to the serial number of the Multi Services Platform chassis. Operating a Multi Services Platform with mismatched hard drives causes the system to rebuild the disk array and prevents the system from operating.

Procedure

- Step 1** Press the red handle-release button on the front of the hard drive.
The drive handle extends from the front of the hard drive.
- Step 2** With the red handle-release button of the hard drive facing toward you and to the right, push the drive straight into an open slot on the front of the Multi Services Platform until you feel resistance.
- Step 3** Push the drive handle toward the hard drive until the handle locks into place.
- Step 4** Repeat these steps until each hard drive is installed.

**Tip**

You may find it easiest to install the drives from the top down and from the right to the left. This approach allows the drives to slide into the slots more easily.

Connecting to Power, the Network, and External Devices

After you mount the Multi Services Platform in a rack and install the hard drives, you are ready to connect a monitor, keyboard, and mouse to the server, and to connect the server to power and to your network. To make these connections, follow these steps:

Procedure

- Step 1** Connect a monitor, keyboard, and mouse to the appropriate ports on the back of the Multi Services Platform.
- Step 2** Connect a Category 5 or higher network cable to either network port on the back of the Multi Services Platform and to your network switch.
- Step 3** Take either of these actions to connect power to the Multi Services Platform:
- If your Multi Services Platform is configured with one power supply, connect the provided power cable to the power port on the back of the Multi Services Platform, then plug the cable into an electrical outlet.
 - If your Multi Services Platform is configured with two power supplies, connect the two provided power cables to the two power ports on the back of the Multi Services Platform, then plug each cable into an electrical outlet.
-

Performing the Initial Configuration of the Multi Services Platform

After you connect a monitor, keyboard, and mouse to the Multi Services Platform, and you connect it to power and to your network, you are ready to power on the server and perform the initial configuration that is required for Cisco VSM. Initial configuration involves setting options for the following:

- Network settings—Options that the Multi Services Platform requires to operate on your network.

- System time and date—Time and date in the location that the Multi Services Platform is to operate.
- Network Time Protocol (NTP)—Options that the Multi Services Platform requires to synchronize its clock with an NTP server. Configuring NTP is optional but recommended.

The following sections describe in detail how to perform the initial configuration of a Multi Services Platform:

- [Powering On the System and Accessing the YaST Control Center, page 2-12](#)
- [Configuring Network Settings, page 2-15](#)
- [Setting the System Time, page 2-21](#)
- [Configuring NTP, page 2-24](#)

If you already collected the configuration values that are described in the “[Information Required for Configuring a Multi Services Platform](#)” section on [page 1-4](#), refer to that information as you perform the following procedures.

Powering On the System and Accessing the YaST Control Center

After you connect a monitor, keyboard, and mouse to your Multi Services Platform, and connect it to power and to your network, you are ready perform the initial configuration of the server.

You perform the initial configuration procedures from the YaST Control Center on the Multi Services Platform. To access the YaST Control Center, follow these steps:

Procedure

- Step 1** Power on the Multi Services Platform by pressing the power button on its front panel (see [Figure 2-4](#)).

Figure 2-4 **Power Button**



The system boots up. It displays several screens of information during this process. It also displays several prompts for information or optional actions.



Note Do not respond to the prompts that appear during boot up. Instead, let the system accept the default values and continue with the boot process.


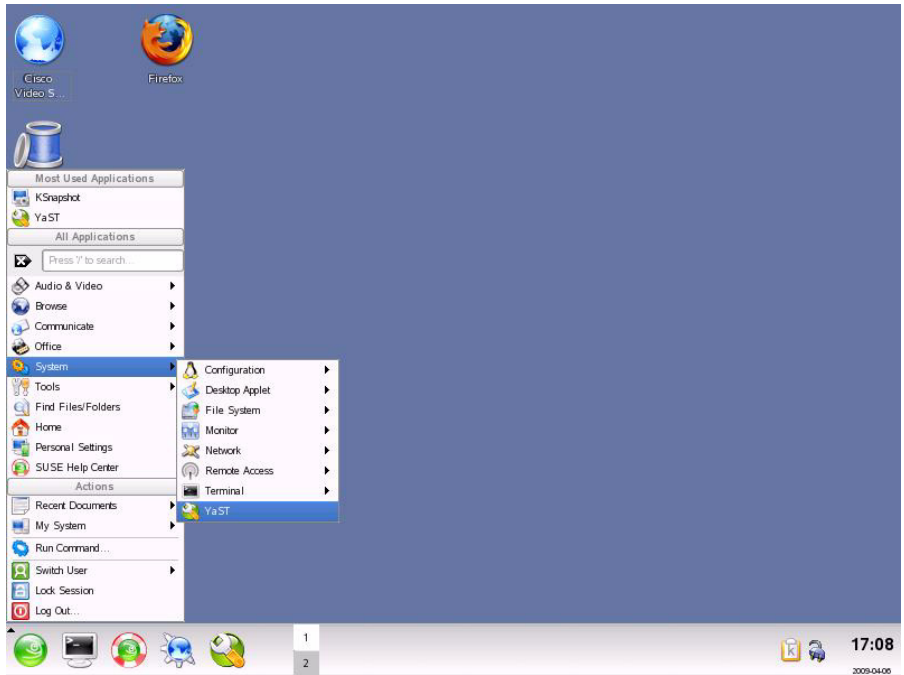
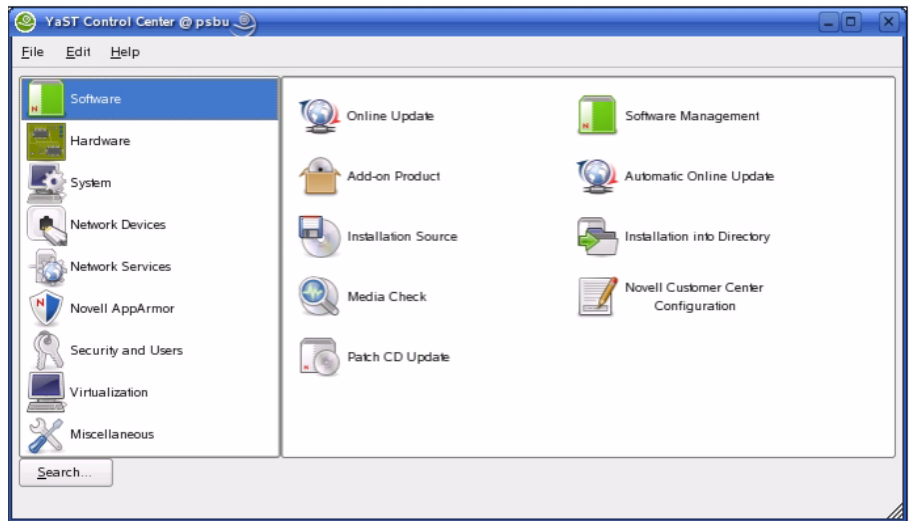
- Step 2** When the system prompts you for a user name and password, take these actions:
- a. In the Username field, enter **root**.
The user name is not case sensitive.
 - b. In the Password field, enter **secur4u**.
The password is case sensitive.
 - c. Click the return button next to the Password field, or press the **Enter** key.
The server desktop appears.
- Step 3** Click the programs menu icon , which appears in the lower left corner of your screen.
- Choose **System > YaST**, as shown in [Figure 2-5](#).

Figure 2-5 Accessing the YaST Control Center

The YaST Control Center window appears, as shown in [Figure 2-6](#).

Figure 2-6 YaST Control Center Window

**Note**

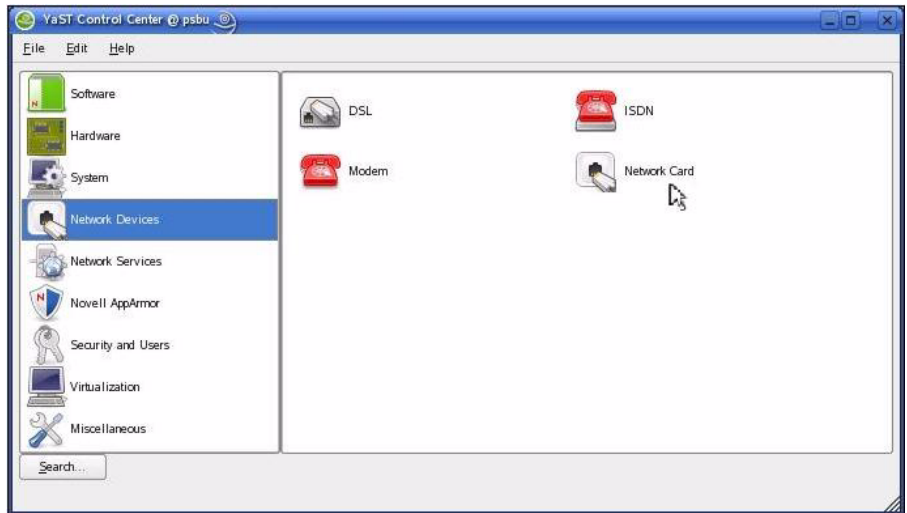
The YaST Control Center times out after 5 minutes of inactivity. If a timeout occurs, enter the password **secur4u** to redisplay the Control Center.

Configuring Network Settings

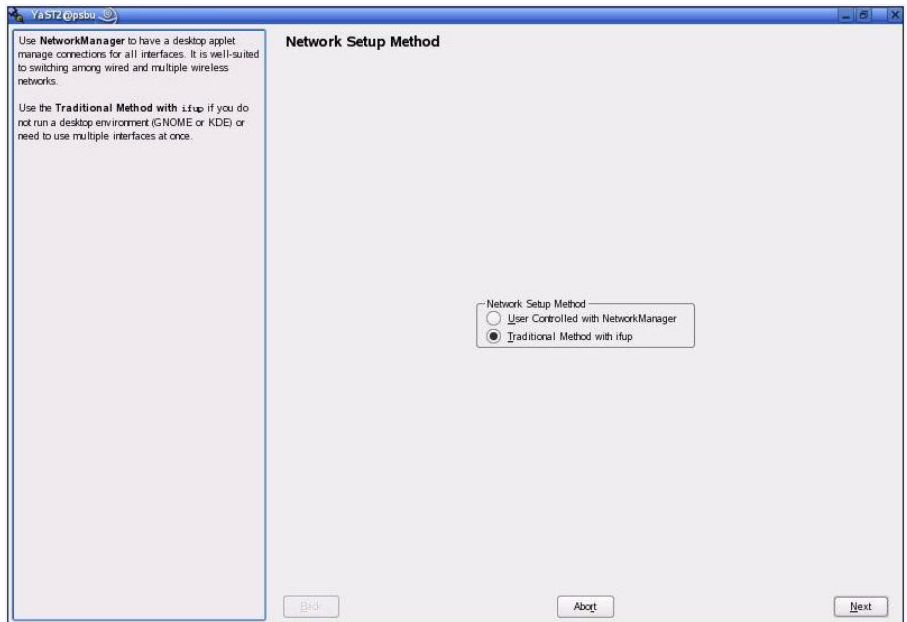
This section explains how to configure the settings that the Multi Services Platform requires to operate on your network. To configure these settings, follow these steps:

Procedure

- Step 1** Access the YaST Control Center window as described in the [“Powering On the System and Accessing the YaST Control Center”](#) section on page 2-12.
- Step 2** In the left panel of the YaST Control Center window, click **Network Devices**, then click **Network Card** in the right panel, as shown in [Figure 2-7](#).

Figure 2-7 Accessing Network Configuration Options

The YaST2 window appears, as shown in [Figure 2-8](#).

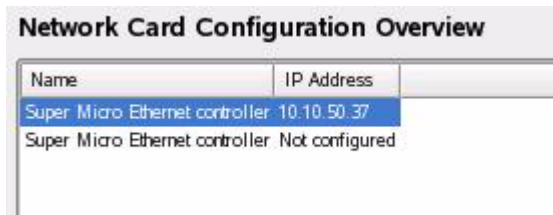
Figure 2-8 YaST2 Window

- Step 3** In the YaST2 window, make sure that the **Traditional Method with ifup** radio button in the Network Setup Method area is selected (see [Figure 2-8](#)), then click **Next**.
- Step 4** Take these actions:
- Make sure that the first controller that is listed in the Network Card Configuration Overview area is selected, as shown in [Figure 2-9](#).

**Note**

The network cards that appear on your system may be different than the ones shown here.

Figure 2-9 *Choosing a Network Card*



Name	IP Address
Super Micro Ethernet controller	10.10.50.37
Super Micro Ethernet controller	Not configured

b. Click **Edit** at the bottom of the screen.

The Network Address Setup area appears, as shown in [Figure 2-10](#).

Figure 2-10 Network Address Setup Area

The screenshot shows the 'Network Address Setup' window with two tabs: 'General' and 'Address'. The 'Address' tab is selected. The configuration options are as follows:

- Device Type:** Ethernet (dropdown menu)
- Configuration Name:** fd-00-30-48-c6-0f-8a (dropdown menu)
- Address Setup Method:** None Address Setup, Automatic Address Setup (via DHCP), Static Address Setup
- IP Address:** (text input field)
- Subnet Mask:** (text input field)
- Detailed Settings:**
 - Hostname and Name Server (button)
 - Routing (button)
 - Advanced... (dropdown menu)

- Step 5** Make sure that the **Address** tab is selected in the Network Address Setup area, then take these actions:
- Click the **Static Address Setup** radio button.
 - In the IP Address field, enter the IP address for the server.
 - In the Subnet Mask field, enter the subnet mask for the server.
 - If you need to assign a default gateway, click the **Routing** button and continue to [Step 6](#). Otherwise, skip to [Step 7](#).

- Step 6** In the Routing Configuration area, take these actions:
- In the Default Gateway field, enter the default gateway for the server, if applicable in your network configuration.
 - Click **OK**.
- The Network Address Setup area appears again.
- Step 7** In the Network Address Setup area, take these actions:
- Click the **Hostname and Name Server** button to display the Hostname and Name Server Configuration area, as shown in [Figure 2-11](#).

Figure 2-11 Hostname and Name Server Configuration Area

Hostname and Name Server Configuration

Hostname and Domain Name (Global)

Hostname: psbu-priskin Domain Name: cisco.com

Change Hostname via DHCP

Write Hostname to /etc/hosts

Name Servers and Domain Search List

Name Server 1: 10.10.50.11 Domain Search: cisco.com

Name Server 2:

Name Server 3:

Update Name Servers and Search List via DHCP

- In the Hostname field, enter the host name for the server.
- (Optional) In the Domain Name field, enter the domain name for the server. If you are not using fully qualified domain names, leave the default domain name (“site”) in this field.

- d. *(Optional)* If this server will access up to 3 DNS servers, enter the IP address of the servers in the Name Server 1, Name Server 2, and Name Server 3 fields.
- e. *(Optional)* In the Domain Search field, enter one or more domains for searching. Separate multiple domains with a comma, space, or carriage return.
- f. Click **OK**.

Step 8 In the Network Address Setup area, click **Next**.
The Network Card Configuration Overview area appears.

Step 9 In the Network Card Configuration Overview area, click **Finish**.
The Multi Services Platform is now operating on the network.

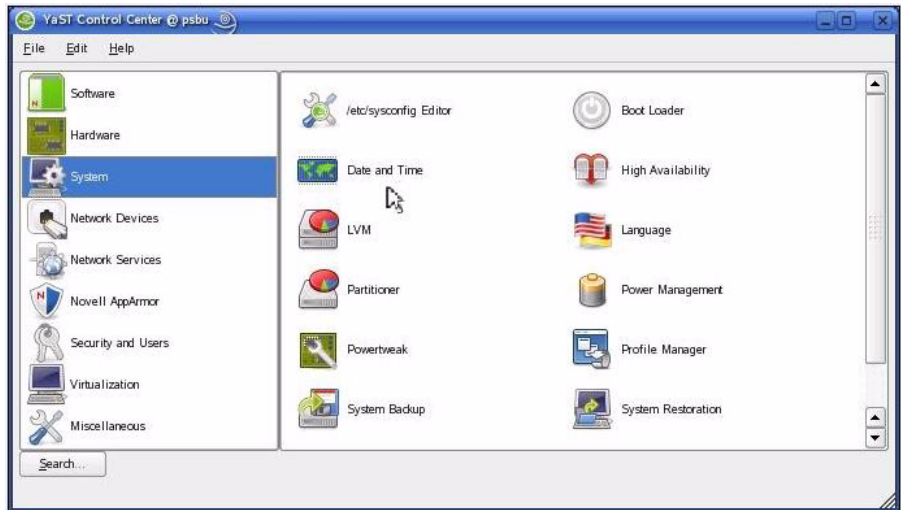
Setting the System Time

This section describes how to set the time for the Multi Services Platform. It is important to set the time correctly so that the VSM system can accurately maintain information for video recording.

To set the time for the Multi Services Platform, follow these steps:

Procedure

- Step 1** Access the YaST Control Center window as described in the [“Powering On the System and Accessing the YaST Control Center”](#) section on page 2-12.
- Step 2** In the left panel of the YaST Control Center window, click **System**, then click **Date and Time** in the right panel, as shown in [Figure 2-12](#).

Figure 2-12 Accessing System Time Options

The Clock and Time Zone area appears, as shown in [Figure 2-13](#).

Figure 2-13 Clock and Time Zone Area

Clock and Time Zone

Region

- Europe
- USA**
- Canada
- Central and South America
- Russia
- Asia
- Australia
- Africa
- Pacific
- Global
- Etc

Time Zone

- Alaska
- Aleutian
- Arizona
- Central
- Eastern
- East Indiana
- Hawaii
- Indiana Starke
- Michigan
- Mountain
- Pacific**
- Samoa

Hardware Clock Set To

UTC

Time and Date

17:34:52 - 2009-04-06

Step 3 In the Region panel, click the region in which the MSP is located.

Step 4 In the Time Zone panel, click the time zone in which the MSP is located.

Make sure that **UTC** is selected from the **Hardware Clock Set To** drop down list, as shown in [Figure 2-14](#).

Figure 2-14 Selecting UTC

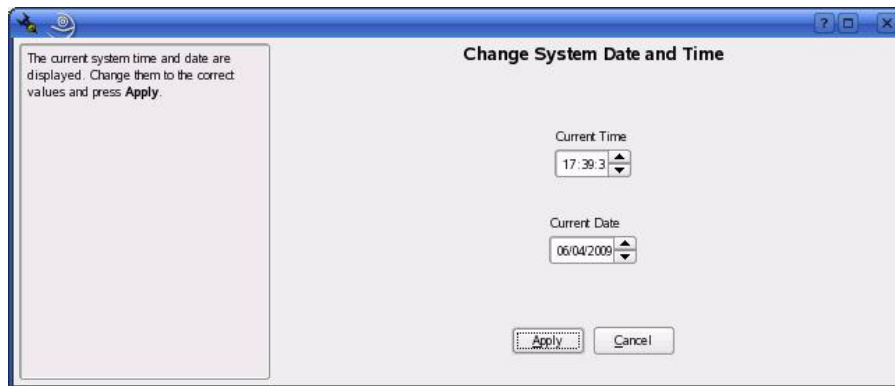
Hardware Clock Set To

UTC

Step 5 Click **Change** next to the Time and Date field.

The Change System Date and Time window appears, as shown in [Figure 2-15](#).

Figure 2-15 Change System Date and Time Window



Step 6 In the Change System Date and Time window, take these actions:

- a. In the Current Time field, enter the current hour, minutes, and seconds in 24 hour format. You can type these values or use the up and down arrows to choose them.
- b. In the Current Date field, enter the current date in Date/Month/Year format. You can type these values or use the up and down arrows to choose them.
- c. Click **Apply**.

Step 7 In the Clock and Time Zone area, click **Accept**.

Configuring NTP

This section describes how to configure NTP for your Multi Services Platform.

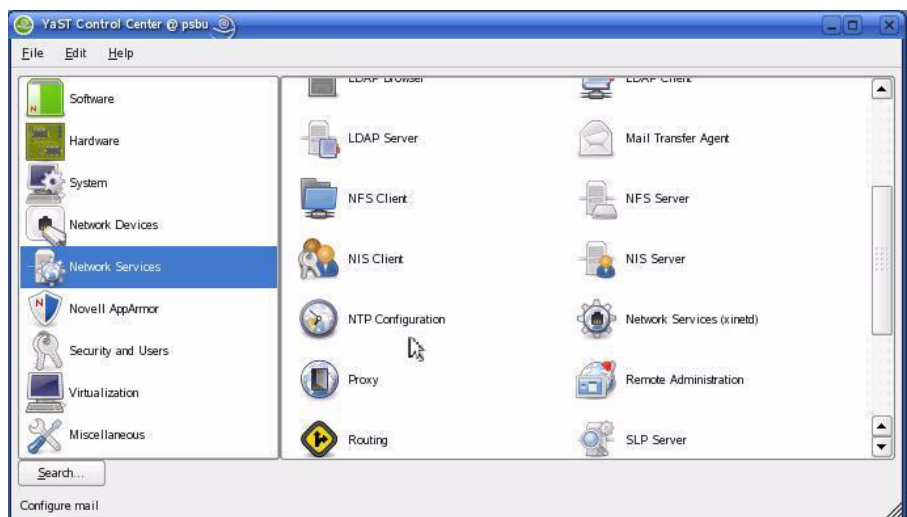
NTP allows the Multi Services Platform clock to synchronize with Coordinated Universal Time (UTC) and ensures that the system clock remains consistently accurate. Cisco strongly recommends that you configure NTP for your system.

To configure NTP, follow these steps:

Procedure

- Step 1** Access the YaST Control Center window as described in the “[Powering On the System and Accessing the YaST Control Center](#)” section on page 2-12.
- Step 2** In the left panel of the YaST Control Center window, click **Network Services**, then click **NTP Configuration** in the right panel, as shown in [Figure 2-16](#).

Figure 2-16 Accessing NTP Options



- Step 3** The Advanced NTP Configuration area appears, as shown in [Figure 2-17](#).

Figure 2-17 Advanced NTP Configuration Area

Advanced NTP Configuration

Automatically Start NTP Daemon

Never

During Boot

Run NTP Daemon in Chroot Jail

Configure NTP Daemon via DHCP

Firewall Settings

Open Port in Firewall [Firewall Details](#)

Firewall is disabled

Synchronization Type	Address

[Add](#) [Edit](#) [Delete](#) [Display Log ...](#)

Step 4 Make sure that the **During Boot** radio button is selected, as shown in [Figure 2-18](#).

Figure 2-18 Choosing the During Boot Radio Button

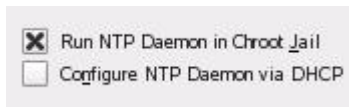
Automatically Start NTP Daemon

Never

During Boot

Step 5 Uncheck the **Configure NTP Daemon via DHCP** check box, as shown in [Figure 2-19](#).

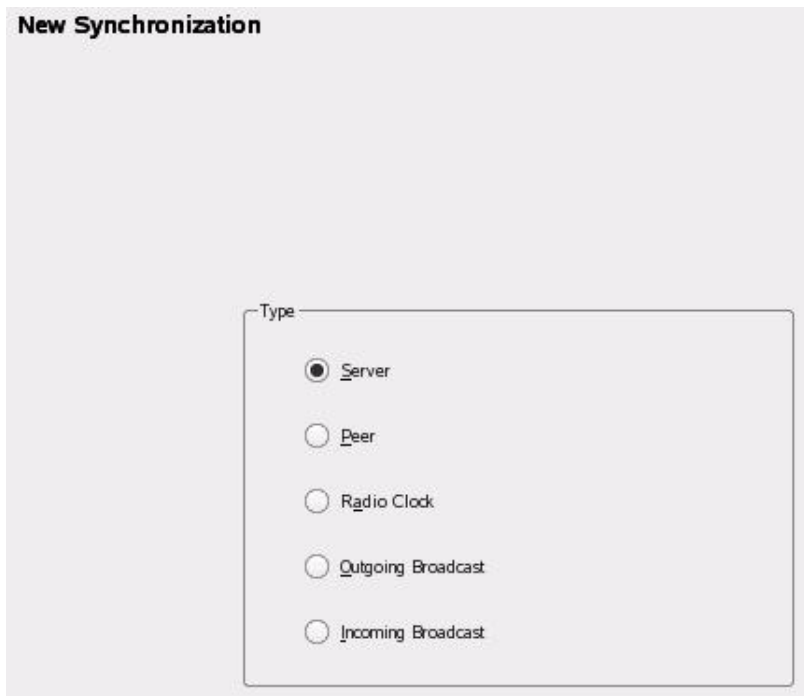
Figure 2-19 Unchecking the Configure NTP Daemon via DHCP Check Box



Step 6 Click **Add**.

Step 7 The New Synchronization area appears, as shown in [Figure 2-20](#).

Figure 2-20 New Synchronization Area



Step 8 In the New Synchronization area, make sure that the **Server** radio button is selected, and click **Next**.

Step 9 The NTP Server panel appears, as shown in [Figure 2-21](#).

Figure 2-21 NTP Server Area

NTP Server

Address

Use for Initial Synchronization

Options

- Step 10** In the NTP Server area, take these actions:
- In the Address field, enter the IP address or host name of your NTP server.
 - (Optional) Click **Test** to make sure that the Multi Services Platform can access the NTP server.
 - Check the **Use for Initial Synchronization** check box.
 - Click **OK**.
- Step 11** In the Advanced NTP Configuration screen, click **Finish**.
-

Where to Go from Here

Congratulations. If you have successfully completed the procedures that this chapter describes, your Multi Services Platform is configured and running on your network. Now you are ready to configure the VSM software, as described in [Chapter 3, “Configuring VSM.”](#)

■ Where to Go from Here



CHAPTER 3

Configuring VSM

This provides instructions for performing the basic configuration of VSOM. Basic configuration involves providing information about VSMS, VSVM, video encoder, and camera devices that will operate in your VSM deployment, and scheduling video recording.

This chapter includes these topics:

- [Setting the VSOM Log In Page as the Default Web Page, page 3-1](#)
- [Configuring VSM, page 3-4](#)
- [Where to Go from Here, page 3-46](#)

Setting the VSOM Log In Page as the Default Web Page

The following steps describe how to configure VSM so that the VSOM log in page appears by default when you access an MSP with a web browser. Perform these steps on each MSP that is to run VSOM.

Procedure

- Step 1** Make sure that the Multi Services Platform that is running VSOM is powered up.

Setting the VSOM Log In Page as the Default Web Page

- Step 2** Take either of these actions to access the Management Console:
- From the keyboard and monitor that are attached to the Multi Services Platform, click the Cisco Video Surveillance Management Console icon on the server desktop (see [Figure 3-1](#)).

Figure 3-1 Management Console Icon



- From a computer that can access the network in which the Multi Services Platform is connected, start Internet Explorer version 6 or 7 and enter the IP address of host name of the Multi Services Platform in the Address field.
- The Video Surveillance Management Console appears (see [Figure 3-2](#)).

Figure 3-2 VSM Management Console

The screenshot shows the Cisco Video Surveillance Management Console (VSM) interface. The top header is 'Video Surveillance Management Console'. The left sidebar contains a navigation menu with the following sections:

- Overview
- Installed Packages
- Status Console
- Monitoring
- Archives
- Archive Backup
- System Log
- Mediaout
- DVR
- Configuration
- SNMP Trap Destinations
- Manage Drivers
- Media Server
- Media Server Backup
- Operations Manager
- Operations Manager Back
- Virtual Matrix
- Console Password
- Restart Server
- Reboot Server
- Other Utilities

The main content area is divided into two sections:

Installed Packages

```

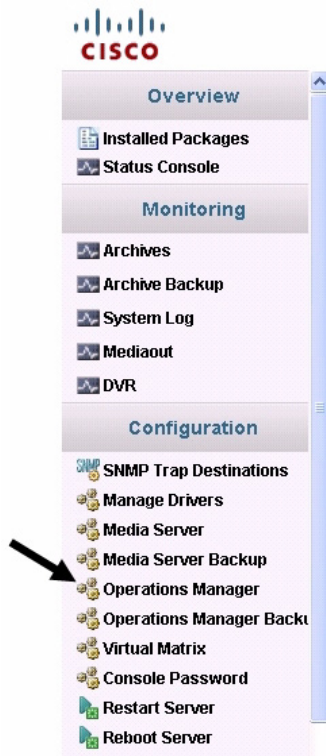
Cisco_VSEWT-6.1.0-13d
Cisco_VSBase-6.1.0-11d
Cisco_VSDocs-6.1.0-11d
Cisco_VSDriveK-6.1.0-11d
Cisco_VSMS-6.1.0-11d
Cisco_VSOM-4.1.0-15
Cisco_VSRecorder-6.1.0-11d
Cisco_VSTools-6.0-23
Cisco_VSYM-6.1.0-11
  
```

Additional Driver Packages

dp_acti	1.0-04d	[installed]
dp_autodome	1.0-02d	[installed]
dp_axis	1.3-12d	[installed]
dp_cisco	1.4-07d	[installed]
dp_cohu	1.0-03d	[installed]
dp_cornet	1.3-05d	[installed]
dp_indigo	1.2-01d	[installed]
dp_ikeye	2.2-1-05d	[installed]
dp_ivc	1.0-02d	[installed]
dp_lumenera	1.0-03d	[installed]
dp_mango	1.0-11d	[installed]
dp_nicevdr	1.0-06d	[installed]
dp_optelecom	1.0-05d	[installed]
dp_panasonic	1.2-8d	[installed]
dp_pelco	1.3-01d	[installed]
dp_smartight	1.0-04d	[installed]
dp_sony	1.3-10d	[installed]
dp_teleste	1.3-02d	[installed]
dp_toshiba	1.0-05d	[installed]
dp_vbrick	1.0-05d	[installed]
dp_vcs	1.1-19d	[installed]

- Step 3** Click the **Operations Manager** link in the Configuration area, as shown in [Figure 3-3](#).

Figure 3-3 Choosing Operations Manager



- Step 4** In the dialog box that prompts for a user name and password take these actions:
- a. In the Username field, enter **root**.
The user name is not case sensitive.
 - b. In the Password field, enter **secur4u**.
The password is case sensitive.
- Step 5** Under Select Homepage, choose the **Change default homepage to VSOM** radio button, as shown in [Figure 3-4](#).
You may need to scroll down to see this option.

Figure 3-4 Choosing the VSOM Default Home Page

Select Homepage

Change default homepage to VSOM

Change default homepage to VSMC

Update Reset

Step 6 Click Update.

Configuring VSM

The following sections describe how to make basic configuration settings for VSM. This process includes configuring options for servers, video encoders (if needed), cameras, and recording schedules. You can configure cameras and video encoders even if they are not yet set up in your deployment. After you complete these configuration procedures, you can display video through the system.

You can always update configuration settings later. In addition, there are many advanced configuration settings that you also can make later.

To perform the basic configuration of VSM, review and follow the instructions in the following sections:

- [Accessing Video Surveillance Operations Manager, page 3-5](#)
- [Adding Servers, page 3-6](#)
- [Adding Video Encoders, page 3-11](#)
- [Adding Analog Cameras, page 3-17](#)
- [Adding IP Cameras, page 3-26](#)
- [Configuring Archives, page 3-37](#)

If you already collected the configuration values that are described in the [“Information Required for Configuring VSM” section on page 1-5](#), refer to that information as you perform the following procedures.

Accessing Video Surveillance Operations Manager

You perform the basic configuration of VSM by using the VSOM Operations Manager, which you control through the VSOM Operator pages. You can access these pages from a client PC that meets the requirements that the “[Client PCs](#)” section on page 1-10 describes.

To access the VSOM Operations Manager, perform the following steps.

Before you begin, make sure that you have performed the steps that are described in the “[Setting the VSOM Log In Page as the Default Web Page](#)” section on page 3-1.

Procedure

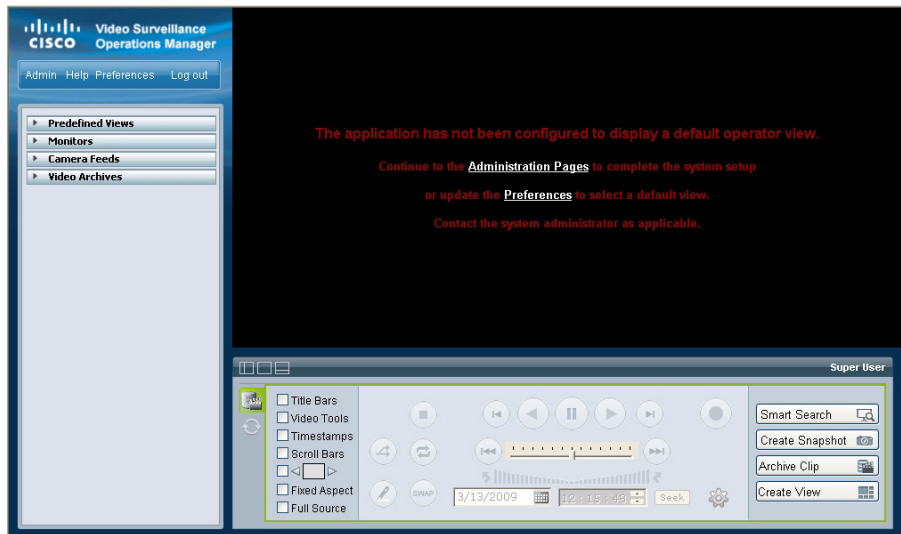
- Step 1** On a client PC, take these actions:
- Start Internet Explorer.
 - Enter the IP address or the host name of the Multi Services Platform server that is running VSOM.
- Step 2** In the dialog box that prompts for a user name and password take these actions:
- In the Username field, enter **root**.
The user name is not case sensitive.
 - In the Password field, enter **secur4u**.
The password is case sensitive.
 - Click **OK**.



Note If you are prompted to install the ActiveX controller (AXclient), follow the on-screen prompts to do so. ActiveX is required to display video through VSM. You are prompted to install the ActiveX controller the first time that you log into VSOM.

The VSOM Operator page appears, as shown in [Figure 3-5](#).

Figure 3-5 VSOM Operator Page



Adding Servers

Adding servers is the process of configuring information about each Multi Services Platform that runs VSMS and each Multi Services Platform that runs VSVM in your VSM deployment. This information includes the name and IP address or host name of each server. If a Multi Services Platform runs VSMS and VSVM, add that server twice, once for each component.

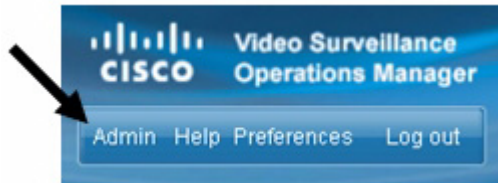
To add servers, follow these steps:

Procedure

- Step 1** Access the VSOM Operations Manager as described in the [“Accessing Video Surveillance Operations Manager”](#) section on page 3-5.

- Step 2** In the VSOM Operator page, click the **Admin** link, which appears near the top left of the page (see [Figure 3-6](#)).

Figure 3-6 Admin Link



The Administration area appears.

- Step 3** Take the following actions to configure each server that will run VSMS:
- Click **Servers** under Devices in the left panel of the VSOM Operator page, as shown in [Figure 3-7](#).

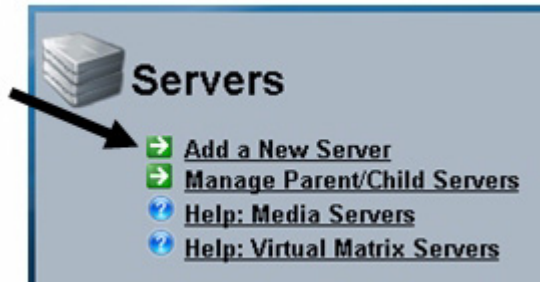
Figure 3-7 Accessing the Servers Area



The Servers area appears.

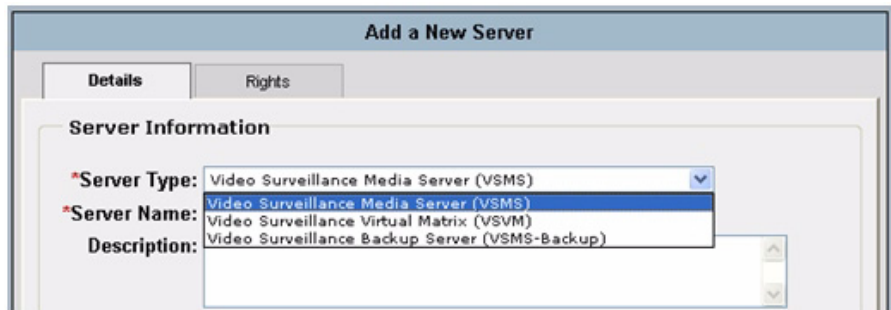
- In the Servers area, click **Add a New Server**, as shown in [Figure 3-8](#).

Figure 3-8 *Choosing to Add a Server*

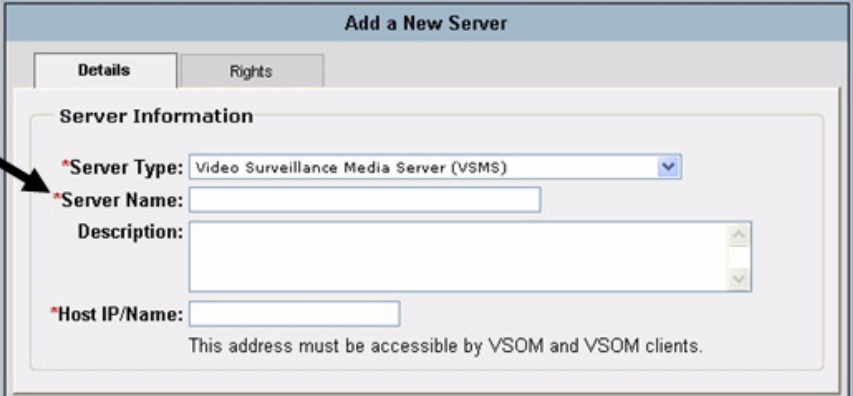


- c. In the Server Information area in the Details tab, choose **Video Surveillance Media Server (VSMS)** from the Server Type drop-down list, as shown in [Figure 3-9](#).

Figure 3-9 *Choosing a VSMS Server Type*



- d. In the Server Name field (see [Figure 3-10](#)), enter a name for the server.
Enter a descriptive name that can help you identify the server. For example, enter the location of the server or its primary use. The name can include any combination of characters and spaces.

Figure 3-10 Server Name Field

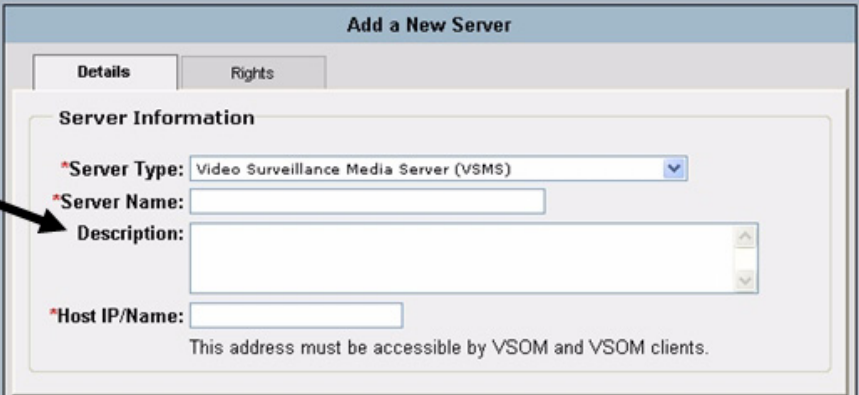
The screenshot shows a web-based configuration interface titled "Add a New Server". It has two tabs: "Details" (selected) and "Rights". Under the "Details" tab, there is a section titled "Server Information" containing the following fields:

- *Server Type:** A dropdown menu with "Video Surveillance Media Server (VSMS)" selected.
- *Server Name:** A text input field, which is highlighted by a black arrow pointing from the left.
- Description:** A large text area with up and down arrow buttons on the right side.
- *Host IP/Name:** A text input field.

Below the "Host IP/Name" field, there is a note: "This address must be accessible by VSOM and VSOM clients."

- e. (Optional) In the Description field (see [Figure 3-11](#)), enter a description for the server.

For example, the description could include the location or type of the server.

Figure 3-11 Description Field

This screenshot is identical to Figure 3-10, showing the "Add a New Server" configuration window. In this view, the "Description" field is highlighted with a black arrow pointing from the left.

- f. In the Host IP/Name field (see [Figure 3-12](#)), enter the host name or IP address of the server that you are adding.

Figure 3-12 Host IP/Name Field

- g. Click the **Submit** button to add the server.
- h. Repeat this [Step 3](#) for each server on which you will run VSMS.

Step 4 If you will use VSVM, take the following actions to configure the server that will run VSVM:

- a. Click **Servers** under Devices in the left panel of the VSOM Operator page, as shown in [Figure 3-7 on page 3-7](#).
The Servers area appears.
- b. In the Servers area, click **Add a New Server**, as shown in [Figure 3-8 on page 3-8](#).
- c. In the Server Information area in the Details tab, choose **Video Surveillance Virtual Matrix (VSVM)** from the Server Type drop-down list, as shown in [Figure 3-13](#).

Figure 3-13 Choosing a VSVM Server Type

- d. In the Server Name field, enter a name for server.
Enter a descriptive name that can help you identify the server. The name can include any combination of characters and spaces
- e. (Optional) In the Description field, enter a description for the server.
For example, the description could include the location or type of the server.
- f. In the Host IP/Name field, enter the host name or IP name of the server that you are adding, followed by **:8086**.
“:8086” is the default port number and appears in this field by default.
- g. Click the **Submit** button to add the server.

Adding Video Encoders

Adding video encoders is the process of configuring information about each video encoder that will operate in your VSM deployment.

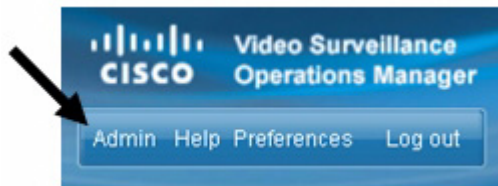
Video encoders convert analog video from analog cameras into digital video that can be used by VSM. An encoder is identified by an IP address or host name and by type. In addition, encoders often are secured by a user name and password, which you should provide as required.

Video encoders are required only if your deployment includes analog cameras. If you will not use video encoders, skip this section.

Procedure

- Step 1** Access the VSOM Operations Manager as described in the “[Accessing Video Surveillance Operations Manager](#)” section on page 3-5
- Step 2** In the VSOM Operator page, click the **Admin** link, which appears near the top left of the page (see [Figure 3-14](#)).

Figure 3-14 Admin Link



The Administration area appears.

- Step 3** Click **Encoders** under Devices in the left panel of the VSOM Operator page, as shown in [Figure 3-15](#).

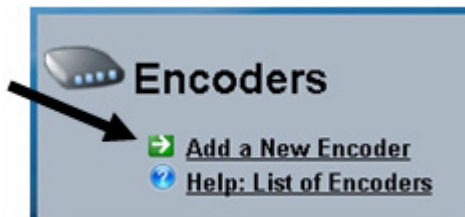
Figure 3-15 Accessing the Encoders Area



The Encoders area appears.

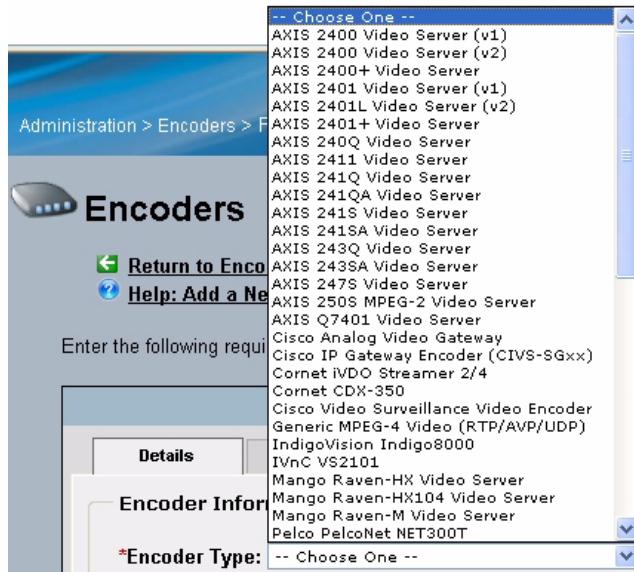
- Step 4** In the Encoders area, click **Add a New Encoder**, as shown in [Figure 3-8](#).

Figure 3-16 Choosing to Add an Encoder




- Step 5** In the Encoder Information area in the Details tab, take these actions:
- Choose the model of the video encoder that you are adding from the Encoder Type drop-down list, as shown in [Figure 3-17](#).

Figure 3-17 Choosing an Encoder Type



- b. In the Encoder Name field (see [Figure 3-18](#)), enter a name for the video encoder.

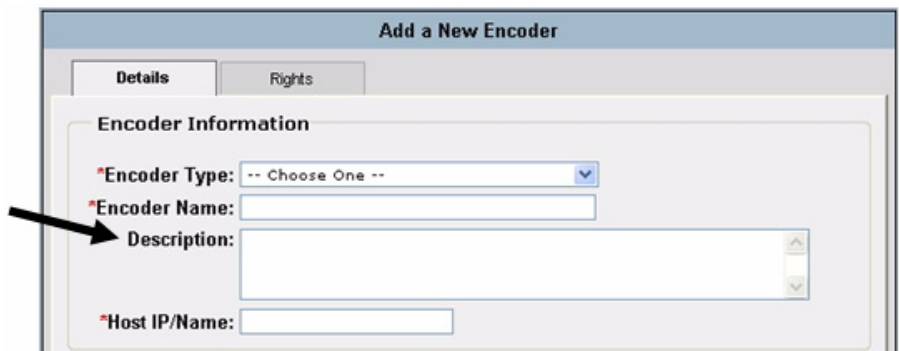
Enter a descriptive name that can help you identify the device. The name can include any combination of characters and spaces.

Figure 3-18 Encoder Name Field

The screenshot shows the 'Add a New Encoder' configuration page. The 'Encoder Information' section is expanded, showing the following fields: 'Encoder Type' (a dropdown menu with '-- Choose One --'), 'Encoder Name' (a text input field), 'Description' (a large text area), and 'Host IP/Name' (a text input field). An arrow points to the 'Encoder Name' field.

- c. (Optional) In the Description field (see [Figure 3-19](#)), enter a description for the video encoder.

For example, the description could include the location or type of the video encoder.

Figure 3-19 Description Field

The screenshot shows the 'Add a New Encoder' configuration page. The 'Encoder Information' section is expanded, showing the following fields: 'Encoder Type' (a dropdown menu with '-- Choose One --'), 'Encoder Name' (a text input field), 'Description' (a large text area), and 'Host IP/Name' (a text input field). An arrow points to the 'Description' field.

- d. In the Host IP/Name field (see [Figure 3-20](#)), enter the host name or IP name of the video encoder that you are adding.

Figure 3-20 Host IP/Name Field

The screenshot shows a web interface titled "Add a New Encoder". It has two tabs: "Details" (selected) and "Rights". Under the "Details" tab, there is a section titled "Encoder Information" containing the following fields:

- *Encoder Type:** A dropdown menu with "-- Choose One --" selected.
- *Encoder Name:** A text input field.
- Description:** A large text area with scrollbars.
- *Host IP/Name:** A text input field, which is highlighted by a black arrow pointing from the left.

Step 6 If the video encoder allows access from VSMS only if VSMS provides valid authentication credentials, take these actions in the Authentication area in the Details Tab:

- a. In the Username field (see [Figure 3-21](#)), enter the user name that VSMS provides when accessing the video encoder.

The user name is configured on the video encoder and the value that you enter in this field must match the configured name exactly. The user name can contain alphabetic and numeric characters only and is case sensitive.

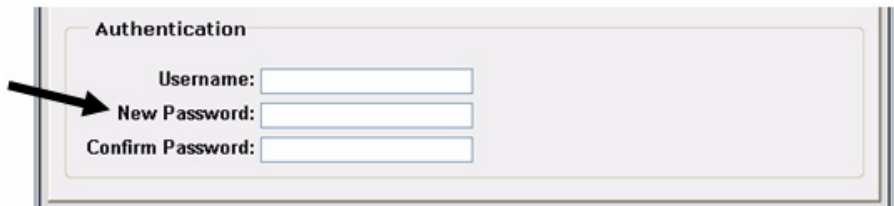
Figure 3-21 Username Field

The screenshot shows the "Authentication" section of the configuration window. It contains three text input fields:

- Username:** A text input field, highlighted by a black arrow pointing from the left.
- New Password:** A text input field.
- Confirm Password:** A text input field.

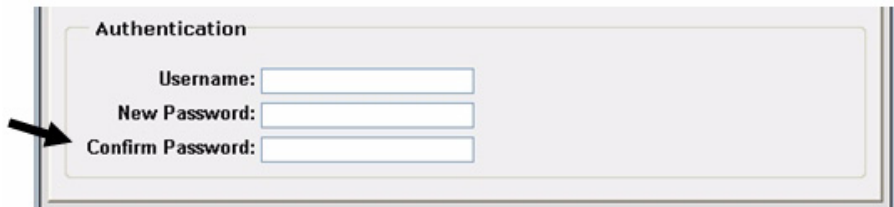
- b. In the New Password field (see [Figure 3-22](#)), enter the password that VSMS provides when accessing the video encoder.

The password is configured on the video encoder and the value that you enter in this field must match the configured password exactly. The password can contain alphabetic and numeric characters only and is case sensitive.

Figure 3-22 *New Password Field*

The screenshot shows a web form titled "Authentication" with three input fields: "Username:", "New Password:", and "Confirm Password:". A black arrow points to the "New Password:" field.

- c. In the Confirm Password field (see [Figure 3-23](#)), reenter the password.

Figure 3-23 *Confirm Password Field*

The screenshot shows the same "Authentication" form as Figure 3-22. A black arrow points to the "Confirm Password:" field.

- Step 7** Click the **Submit** button to add the encoder.
- Step 8** Repeat [Step 4](#) through [Step 7](#) as needed to add other video encoders.
-

Adding Analog Cameras

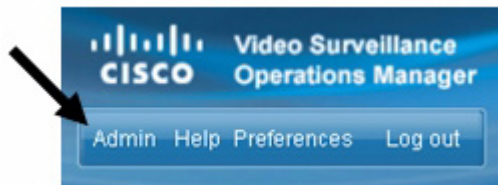
Adding analog cameras is the process of configuring information about the analog cameras that will operate in your VSM deployment. This information includes the name of each camera and information about its video stream.

Before you can add analog cameras, you must configure video encoders as described in the [“Adding Video Encoders”](#) section on page 3-11. If you will not use analog cameras, skip this section.

Procedure

- Step 1** Access the VSOM Operations Manager as described in the “[Accessing Video Surveillance Operations Manager](#)” section on page 3-5
- Step 2** In the VSOM Operator page, click the **Admin** link, which appears near the top left of the page (see [Figure 3-24](#)).

Figure 3-24 Admin Link



The Administration area appears.

- Step 3** Click **Analog Cameras** under Devices in the left panel of the VSOM Operator page, as shown in [Figure 3-25](#).

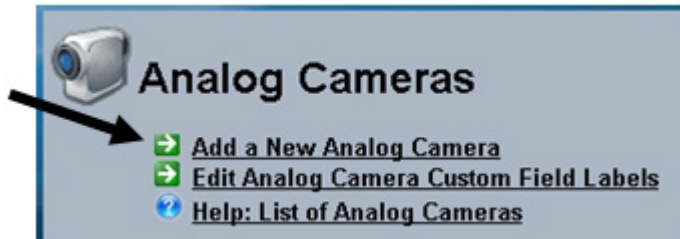
Figure 3-25 Accessing the Analog Cameras Area



The Analog Camera area appears.

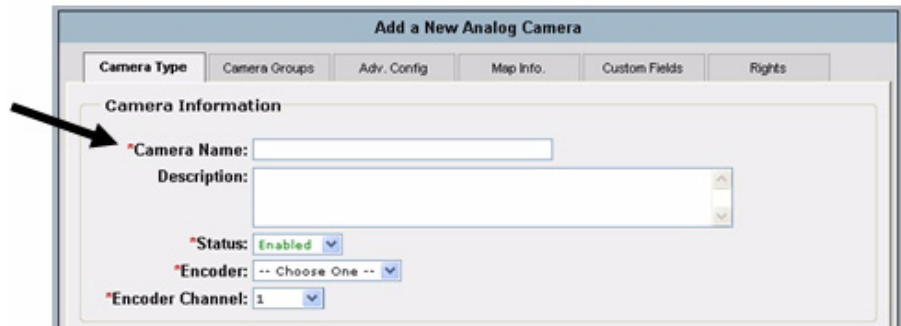
- Step 4** In the Analog Cameras area, click **Add a New Analog Camera**, as shown in [Figure 3-26](#).

Figure 3-26 *Choosing to Add an Analog Camera*



- Step 5** In the Camera Information area in the Camera Type tab, take these actions:
- a. In the Camera Name field (see [Figure 3-27](#)), enter a name for the camera.
Enter a descriptive name that can help you identify the camera. The name can include any combination of characters and spaces.

Figure 3-27 *Camera Name Field*



- b. (Optional) In the Description field (see [Figure 3-28](#)), enter a description for the camera.
For example, the description could include the location or type of the camera.

Figure 3-28 Description Field

The screenshot shows the 'Add a New Analog Camera' configuration window. The 'Camera Information' section contains the following fields:

- *Camera Name: [Text Input Field]
- Description: [Text Area]
- *Status: Enabled [Dropdown Menu]
- *Encoder: -- Choose One -- [Dropdown Menu]
- *Encoder Channel: 1 [Dropdown Menu]

A black arrow points to the Description field.

- c. From the Status drop-down list, make sure that **Enabled** is selected, as shown in [Figure 3-29](#).

Figure 3-29 Status Enabled

The screenshot shows the 'Add a New Analog Camera' configuration window. The 'Camera Information' section contains the following fields:

- *Camera Name: [Text Input Field]
- Description: [Text Area]
- *Status: Enabled [Dropdown Menu]
- *Encoder: -- Choose One -- [Dropdown Menu]
- *Encoder Channel: 1 [Dropdown Menu]

A black arrow points to the Status field.

- d. From the Encoder drop-down list (see [Figure 3-30](#)), choose the video encoder that the camera connects to.

This list displays the video encoders that you added as described in the “[Adding Video Encoders](#)” section on page 3-11.

Figure 3-30 Encoder Drop-Down List

The screenshot shows the 'Add a New Analog Camera' configuration window. The 'Camera Information' section contains the following fields:

- *Camera Name: [Text Input]
- Description: [Text Area]
- *Status: [Enabled] (dropdown)
- *Encoder: [-- Choose One --] (dropdown, highlighted with a black arrow)
- *Encoder Channel: [1] (dropdown)

- e. From the Encoder Channel drop-down list (see [Figure 3-31](#)), choose the video encoder input port that the camera connects to.

Figure 3-31 Encoder Channel Drop-Down List

The screenshot shows the 'Add a New Analog Camera' configuration window. The 'Encoder Channel' dropdown menu is highlighted with a black arrow. The page shows the same fields as Figure 3-30:

- *Camera Name: [Text Input]
- Description: [Text Area]
- *Status: [Enabled] (dropdown)
- *Encoder: [-- Choose One --] (dropdown)
- *Encoder Channel: [1] (dropdown, highlighted with a black arrow)

- Step 6** In the Camera Feed area in the Camera Type tab, take these actions:
- a. From the Server drop-down list (see [Figure 3-32](#)), choose the VSMS that is to manage the camera feed.
This list displays the servers that you configured as described in the [“Adding Servers”](#) section on page 3-6.

Figure 3-32 Server Drop-Down List

The screenshot shows the 'Camera Feed' configuration window. The 'Server' field is a drop-down menu with the text '-- Choose One --'. An arrow points to this field. Other fields include 'Media Type' (drop-down), 'Format' (drop-down), 'Resolution' (drop-down), 'Transport' (radio buttons for TCP and UDP), 'Multicast Address' (text input), 'Bitrate' (drop-down), 'Quality' (slider), and a 'Variable Bitrate' checkbox.

- b. From the Media Type drop-down list (see [Figure 3-33](#)), choose the digital video encoding type for the video stream from the camera.

The options in this list depend on the video encoder that you chose for this camera.

Figure 3-33 Media Type Drop-Down List

The screenshot shows the 'Camera Feed' configuration window. The 'Media Type' field is a drop-down menu with the text '-- Choose Camera Type --'. An arrow points to this field. Other fields include 'Server' (drop-down), 'Format' (drop-down), 'Resolution' (drop-down), 'Transport' (radio buttons for TCP and UDP), 'Multicast Address' (text input), 'Bitrate' (drop-down), 'Quality' (slider), and a 'Variable Bitrate' checkbox.

- c. From the Format drop-down list (see [Figure 3-34](#)), choose the format for the video stream from the camera.

The options in this list depend on the video encoder that you chose for this camera.

Figure 3-34 *Format Drop-Down List*

The screenshot shows the 'Camera Feed' configuration window. It contains several fields:

- *Server:** -- Choose One --
- *Media Type:** -- Choose Camera Type --
- *Format:** -- Choose Media Type -- (highlighted with a black arrow)
- *Resolution:** -- Choose Format --
- *Transport:** TCP (selected), UDP
- Multicast Address:** [text box] (Leave blank for unicast)
- *Bitrate:** -- Choose One -- Variable Bitrate
- *Quality:** [slider]

- d. From the Resolution drop-down list (see [Figure 3-35](#)), choose the resolution for the video stream from the camera.

The options in this list depend on the video encoder that you chose for this camera.

Figure 3-35 *Resolution Drop-Down List*

The screenshot shows the 'Camera Feed' configuration window. It contains several fields:

- *Server:** -- Choose One --
- *Media Type:** -- Choose Camera Type --
- *Format:** -- Choose Media Type --
- *Resolution:** -- Choose Format -- (highlighted with a black arrow)
- *Transport:** TCP (selected), UDP
- Multicast Address:** [text box] (Leave blank for unicast)
- *Bitrate:** -- Choose One -- Variable Bitrate
- *Quality:** [slider]

- e. For the Transport option (see [Figure 3-36](#)), take one of these actions to designate the protocol that VSMS uses to obtain video from the encoder (the available choices depend on the video encoder that you chose for this camera):
- To choose Transport Control Protocol (TCP), click the **TCP** radio button

- To choose Universal Datagram Protocol (UDP) unicast, click the **UDP** radio button
- To choose UDP multicast, click the **UDP** radio button, then in the Multicast Address field enter the multicast address that the video encoder should use to multicast the video to VSMS

Figure 3-36 *Transport Option*

The screenshot shows the 'Camera Feed' configuration panel. The 'Transport' section has two radio buttons: 'TCP' (selected) and 'UDP'. Below the 'UDP' radio button is a text input field for 'Multicast Address' with the instruction '(Leave blank for unicast)'. Other fields include 'Server' (dropdown), 'Media Type' (dropdown), 'Format' (dropdown), 'Resolution' (dropdown), 'Bitrate' (dropdown), and 'Quality' (slider).

- f. If the Bitrate drop-down list appears (see [Figure 3-37](#)), choose the bit rate for the video stream from the camera.

The Bitrate drop-down list appears only if you chose MPEG-2, MPEG-4, or H.264 for the media type.

Figure 3-37 *Bitrate Drop-Down List*

This screenshot is similar to Figure 3-36, but the 'Bitrate' field now has a dropdown menu instead of a text input. The 'Transport' section remains the same with 'TCP' selected. The 'Multicast Address' field is still present with the instruction '(Leave blank for unicast)'. Other fields are the same as in Figure 3-36.

- g. If the Frame Rate drop-down list (see [Figure 3-38](#)), choose the frame rate per second for the video stream from the camera.

The Frame Rate drop-down list appears only if you chose JPEG for the media type.

Figure 3-38 Frame Rate Drop-Down List



The screenshot shows a configuration window titled "Camera Feed". It contains several settings:

- *Server:** A dropdown menu with "-- Choose One --".
- *Media Type:** A dropdown menu with "-- Choose Camera Type --".
- *Format:** A dropdown menu with "-- Choose Media Type --".
- *Resolution:** A dropdown menu with "-- Choose Format --".
- *Transport:** Radio buttons for TCP (selected) and UDP. Below it is a text field for "Multicast Address:" with the note "(Leave blank for unicast)".
- *Frame Rate:** A dropdown menu with "-- Choose One --". A checkbox for "Variable Bitrate" is to its right.
- *Quality:** A horizontal slider control.

A black arrow points to the "Frame Rate" dropdown menu.

- h. Use the Quality slider (see [Figure 3-39](#)) to specify the quality of the video stream.

The slider displays a numerical value when you move it. Use these numbers to help determine the setting that you want as follows:

- For MPEG-2, MPEG-4, and H.264 media types, values of 1 through 49 designate the relative priority that frame rate has over compression. Values 50 through 100 designate the relative priority that compression has over frame rate.
- For JPEG media type, values of 1 through 100 designate the relative quality of the video stream. A higher value uses less compression and provides higher quality, but consumes more bandwidth.

Figure 3-39 Quality Slider

The screenshot shows a configuration window titled "Camera Feed". It contains several fields and controls:

- *Server:** A dropdown menu with "-- Choose One --".
- *Media Type:** A dropdown menu with "-- Choose Camera Type --".
- *Format:** A dropdown menu with "-- Choose Media Type --".
- *Resolution:** A dropdown menu with "-- Choose Format --".
- *Transport:** Radio buttons for TCP (selected) and UDP. Below it is a "Multicast Address:" field with a note "(Leave blank for unicast)".
- *Bitrate:** A dropdown menu with "-- Choose One --" and a checkbox for "Variable Bitrate".
- *Quality:** A horizontal slider control. A black arrow points to this slider.

- Step 7** Click the **Submit** button to add the analog camera.
- Step 8** Repeat [Step 4](#) through [Step 7](#) as needed to add other cameras.

Adding IP Cameras

Adding IP cameras is the process of configuring information about the IP cameras that will operate in your VSM deployment. This information includes the name of the camera, information about its video stream, and its log in credentials.

IP cameras (also called *network cameras*) connect directly to an IP network and do not require separate encoders.

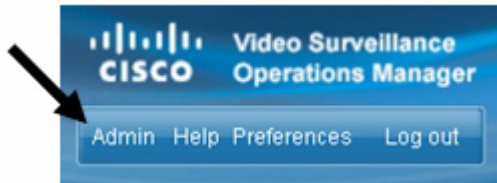
If you will not use IP cameras, skip this section.

Procedure

- Step 1** Access the VSOM Operations Manager as described in the [“Accessing Video Surveillance Operations Manager”](#) section on page 3-5

- Step 2** In the VSOM Operator page, click the **Admin** link, which appears near the top left of the page. (see [Figure 3-40](#)).

Figure 3-40 Admin Link



The Administration area appears.

- Step 3** Click **IP/Network Cameras** under Devices in the left panel of the VSOM Operator page, as shown in [Figure 3-41](#).

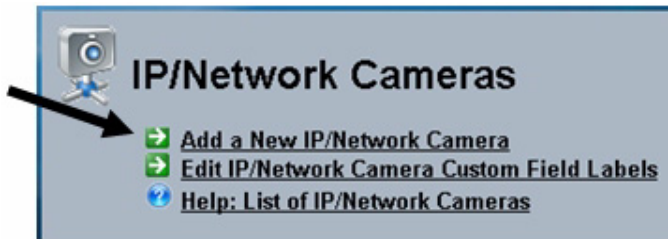
Figure 3-41 Accessing the IP/Network Cameras Area



The IP/Network Cameras area appears.

- Step 4** In the IP/Network Cameras area, click **Add a New IP/Network Camera**.

Figure 3-42 Choosing to Add an IP/Network Camera



Step 5 In the Camera Information area in the Camera Type tab, take these actions:


- a. In the Camera Name field (see [Figure 3-43](#)), enter a name for the analog camera.

Enter a descriptive name that can help you identify the camera. The name can include any combination of characters and spaces.

Figure 3-43 Camera Name Field

- b. (Optional) In the Description field (see [Figure 3-44](#)), enter a description for the camera.

For example, the description could include the location or type of the camera.

Figure 3-44 Description Field

The screenshot shows the 'Add a new IP/Network Camera' configuration window. At the top, there are tabs: 'Camera Type', 'Secondary Feed', 'Camera Groups', 'Adv. Config', 'Map Info.', 'Custom Fields', and 'Rights'. The 'Camera Information' section contains the following fields:

- *Camera Name: [Text input field]
- Description: [Text area with scrollbars]
- *Camera Type: [Drop-down menu with "-- Choose One --"]
- *Host IP/Name: [Text input field]
- *Status: [Drop-down menu with "Enabled"]

An arrow points to the Description field.

- c. From the Camera Type drop-down list (see [Figure 3-45](#)), choose the model of the camera that you are adding.

Figure 3-45 Camera Type Drop-Down List

The screenshot shows the 'Add a new IP/Network Camera' configuration window. At the top, there are tabs: 'Camera Type', 'Secondary Feed', 'Camera Groups', 'Adv. Config', 'Map Info.', 'Custom Fields', and 'Rights'. The 'Camera Information' section contains the following fields:

- *Camera Name: [Text input field]
- Description: [Text area with scrollbars]
- *Camera Type: [Drop-down menu with "-- Choose One --"]
- *Host IP/Name: [Text input field]
- *Status: [Drop-down menu with "Enabled"]

An arrow points to the Camera Type drop-down menu.

- d. In the Host IP/Name field (see [Figure 3-46](#)), enter the IP address or host name of the camera.

Figure 3-46 Host IP-Name Field

The screenshot shows the 'Add a new IP/Network Camera' configuration page. The 'Camera Information' section contains the following fields:

- *Camera Name:
- Description:
- *Camera Type:
- *Host IP/Name: (indicated by an arrow)
- *Status:

- e. From the Status drop-down list (see [Figure 3-47](#)), make sure that **Enabled** is selected.

Figure 3-47 Status Drop-Down List

This screenshot is identical to Figure 3-46, but the arrow points to the Status field, which is set to 'Enabled'.

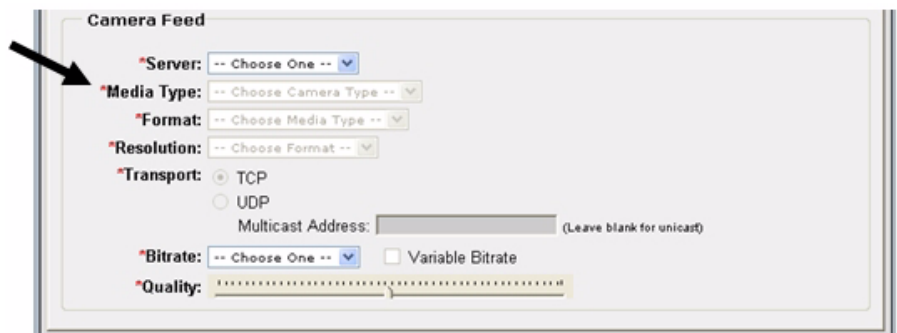
- Step 6** In the Camera Feed area in the Camera Type tab, take these actions:
- a. From the Server drop-down list (see [Figure 3-48](#)), choose the VSMS that will manage the video stream.

This list displays the servers that you configured as described in the [“Adding Servers”](#) section on page 3-6.

Figure 3-48 Server Drop-Down List

The screenshot shows the 'Camera Feed' configuration window. The 'Server' field is a drop-down menu with the text '-- Choose One --' and a blue arrow pointing down. A black arrow points to this field from the left. Other fields include 'Media Type' (drop-down), 'Format' (drop-down), 'Resolution' (drop-down), 'Transport' (radio buttons for TCP and UDP), 'Multicast Address' (text input), 'Bitrate' (drop-down), 'Variable Bitrate' (checkbox), and 'Quality' (slider).

- b. From the Media Type drop-down list (see [Figure 3-49](#)), choose the digital video encoding type for the video stream from the camera.

Figure 3-49 Media Type Drop-Down List

The screenshot shows the 'Camera Feed' configuration window. The 'Media Type' field is a drop-down menu with the text '-- Choose Camera Type --' and a blue arrow pointing down. A black arrow points to this field from the left. Other fields include 'Server' (drop-down), 'Format' (drop-down), 'Resolution' (drop-down), 'Transport' (radio buttons for TCP and UDP), 'Multicast Address' (text input), 'Bitrate' (drop-down), 'Variable Bitrate' (checkbox), and 'Quality' (slider).

- c. From the Format drop-down list (see [Figure 3-50](#)), choose the format for the video stream from the camera.

The options in this list depend on the camera model that you chose.

Figure 3-50 Format Drop-Down List

The screenshot shows the 'Camera Feed' configuration window. It contains several fields:

- *Server:** -- Choose One --
- *Media Type:** -- Choose Camera Type --
- *Format:** -- Choose Media Type -- (highlighted with a black arrow)
- *Resolution:** -- Choose Format --
- *Transport:**
 - TCP
 - UDP
- Multicast Address:** [text box] (Leave blank for unicast)
- *Bitrate:** -- Choose One -- Variable Bitrate
- *Quality:** [slider]

- d. From the Resolution drop-down list (see [Figure 3-51](#)), choose the resolution for the video stream from the camera.

The options in this list depend on the camera model that you chose.

Figure 3-51 Resolution Drop-Down List

The screenshot shows the 'Camera Feed' configuration window. It contains several fields:

- *Server:** -- Choose One --
- *Media Type:** -- Choose Camera Type --
- *Format:** -- Choose Media Type --
- *Resolution:** -- Choose Format -- (highlighted with a black arrow)
- *Transport:**
 - TCP
 - UDP
- Multicast Address:** [text box] (Leave blank for unicast)
- *Bitrate:** -- Choose One -- Variable Bitrate
- *Quality:** [slider]

- e. For the Transport option (see [Figure 3-52](#)), take one of these actions to designate the protocol that VSMS uses to obtain video from the encoder (the available choices depend on the model of the IP camera):
- To choose Transport Control Protocol (TCP), click the **TCP** radio button
 - To choose Universal Datagram Protocol (UDP) unicast, click the **UDP** radio button

- To choose UDP multicast, click the **UDP** radio button, then in the Multicast Address field enter the multicast address that camera should use to multicast the video to VSMS

Figure 3-52 *Transport Option*

The screenshot shows the 'Camera Feed' configuration window. It contains several fields:

- Server:** -- Choose One --
- Media Type:** -- Choose Camera Type --
- Format:** -- Choose Media Type --
- Resolution:** -- Choose Format --
- Transport:** Two radio buttons are present: TCP and UDP. A black arrow points to the UDP radio button.
- Multicast Address:** A text input field with the instruction '(Leave blank for unicast)'.
- Bitrate:** -- Choose One -- and a checkbox for 'Variable Bitrate'.
- Quality:** A slider control.

- From the Bitrate drop-down list (see [Figure 3-53](#)), choose the bit rate for the video stream from the camera.

The Bitrate drop-down list appears only if you chose MPEG-2, MPEG-4, or H.264 for the media type.

Figure 3-53 *Bitrate Drop-Down List*

This screenshot is similar to Figure 3-52, but the **Bitrate** field now displays a drop-down menu with the text '-- Choose One --'. A black arrow points to this drop-down menu. The 'Transport' field is still set to UDP, and the 'Multicast Address' field is present.

- g. From the Frame Rate drop-down list (see [Figure 3-54](#)), choose the frame rate per second for the video stream from the camera.

The Frame Rate drop-down list appears only if you chose JPEG for the media type.

Figure 3-54 Frame Rate Drop-Down List

The screenshot shows a configuration window titled "Camera Feed". It contains several fields and controls:

- *Server:** A dropdown menu with "-- Choose One --" selected.
- *Media Type:** A dropdown menu with "-- Choose Camera Type --" selected.
- *Format:** A dropdown menu with "-- Choose Media Type --" selected.
- *Resolution:** A dropdown menu with "-- Choose Format --" selected.
- *Transport:** Radio buttons for TCP (selected) and UDP. Below it is a "Multicast Address:" text field with the note "(Leave blank for unicast)".
- *Frame Rate:** A dropdown menu with "-- Choose One --" selected. To its right is a checkbox for "Variable Bitrate".
- *Quality:** A horizontal slider control.

A black arrow points to the "Frame Rate" dropdown menu.

- h. Use the Quality slider (see [Figure 3-55](#)) to specify the quality of the video stream.

The slider displays a numerical value when you move it. Use these numbers to help determine the setting that you want as follows:

- For MPEG-2, MPEG-4, and H.264 media types, values of 1 through 49 designate the relative priority that frame rate has over compression. Values of 50 through 100 designate the relative priority that compression has over frame rate.
- For JPEG media type, values of 1 through 100 designate the relative quality of the video stream. A higher value uses less compression and provides higher quality, but consumes more bandwidth.

Figure 3-55 Quality Slider

Camera Feed

*Server: -- Choose One --

*Media Type: -- Choose Camera Type --

*Format: -- Choose Media Type --

*Resolution: -- Choose Format --

*Transport: TCP
 UDP

Multicast Address: (Leave blank for unicast)

*Bitrate: -- Choose One -- Variable Bitrate

*Quality:

Step 7 In the Camera requires authentication area in the Camera Type tab, take these actions:

- a. Check the **Camera requires authentication** check box (see [Figure 3-56](#)) if the camera allows access from VSMS only if VSMS provides valid authentication credentials.

Figure 3-56 Camera Requires Authentication Check Box

Camera requires authentication

Username:

Password:

Confirm Password:

- b. In the Username field (see [Figure 3-57](#)), enter the user name that VSMS provides when accessing the camera.

The user name is configured on the camera and the value that you enter in this field must match the configured name exactly. The user name can contain alphabetic and numeric characters only and is case sensitive.

Figure 3-57 Username Field

- c. In the Password field (see [Figure 3-58](#)), enter the password that VSMS provides when accessing the camera.

The password is configured on the camera and the value that you enter in this field must match the configured password exactly. The password can contain alphabetic and numeric characters only and is case sensitive.

Figure 3-58 Password Field

- d. In the Confirm Password field (see [Figure 3-59](#)), reenter the password.

Figure 3-59 Confirm Password Field

Step 8 Click the **Submit** button to add the analog camera.

Step 9 Repeat [Step 4](#) through [Step 8](#) as needed to add other cameras.

Configuring Archives

An archive is a recording of the feed from a camera in your VSM deployment. Configuring archives is the process of designating a camera feed that you want to record, setting parameters for the recording, and specifying a schedule for the recording. The feed includes video and, depending on the camera and VSM configuration, may include audio.

A recorded feed is called an *archive*. You can display archives when you need to review a video surveillance feed.

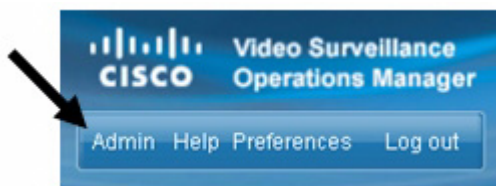
You can configure any of the following schedule types for a recording:

- **Simple Schedule**—Recording occurs during one or more designated time periods. You specify the start date and time and end date and time for each period.
- **Recurring Schedule**—Recording occurs on a weekly schedule. For each day, you can the time range or ranges in which recording occurs, and you can specify start and stop dates for the entire schedule.
- **Continuous Loop**—Records continuously and the system retains video for the time period that you designate.

Procedure

-
- Step 1** Access the VSOM Operations Manager as described in the “[Accessing Video Surveillance Operations Manager](#)” section on page 3-5
- Step 2** In the VSOM Operator page, click the **Admin** link, which appears near the top left of the page. (see [Figure 3-60](#)).

Figure 3-60 **Admin Link**



The Administration area appears.

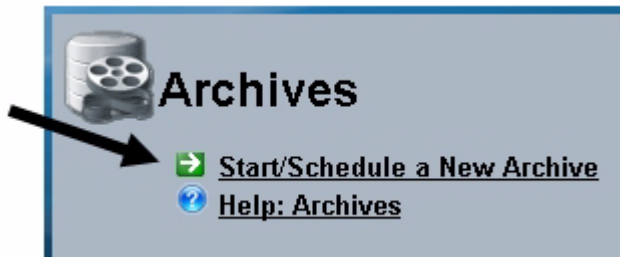
- Step 3** Click **Archives** under Video Feeds in the left panel of the VSOM Operator page, as shown in [Figure 3-61](#).

Figure 3-61 *Choosing Archives*



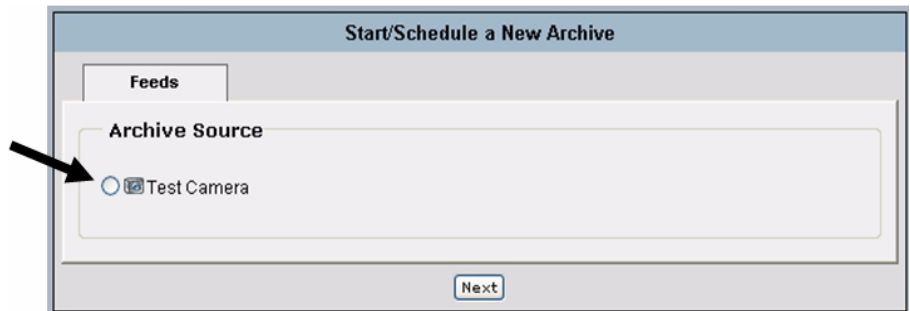
- Step 4** In the Archives area, click **Start/Schedule a New Archive**, as shown in [Figure 3-62](#).

Figure 3-62 *Choosing to Schedule a New Archive*



- Step 5** In the Archive Source area in the Feeds tab, take these actions:
- a. Click the radio button that corresponds to the camera feed that you want to record (see [Figure 3-63](#) for an example).

Figure 3-63 *Choosing to Schedule a New Archive*



- b. Click **Next**.
- Step 6** In the Archive Information area in the Details tab, take these actions:
- a. In the Archive Name field (see [Figure 3-64](#)), enter a name for the camera.
Enter a descriptive name that can help you identify the camera. The name can include any combination of characters and spaces.

Figure 3-64 Archive Name Field

The screenshot shows the 'Start/Schedule a New Archive' configuration window. The 'Details' tab is active. The 'Archive Information' section contains the following fields:

- *Archive Name:
- Description:
- *Status: Enabled
- *Force Start: Default (Media Server version > 6 only)
- *Keep on Server: Forever after the recording has finished.

- b. (Optional) In the Description field (see [Figure 3-65](#)), enter a description for the archive.

Figure 3-65 Description Field

The screenshot shows the 'Start/Schedule a New Archive' configuration window. The 'Details' tab is active. The 'Archive Information' section contains the following fields:

- *Archive Name:
- Description:
- *Status: Enabled
- *Force Start: Default (Media Server version > 6 only)
- *Keep on Server: Forever after the recording has finished.

- c. From the Status drop-down list (see [Figure 3-66](#)), make sure that **Enabled** is selected.

Figure 3-66 Status Drop-Down List

The screenshot shows a configuration window titled "Start/Schedule a New Archive". It has four tabs: "Details", "Archive Type", "Backup", and "Rights". The "Details" tab is active. Under the "Archive Information" section, there are the following fields:

- *Archive Name: [Text Input Field]
- Description: [Text Area]
- *Status: [Dropdown Menu] (Current selection: Enabled)
- *Force Start: [Dropdown Menu] (Current selection: Default) (Media Server version > 6 only)
- *Keep on Server: [Dropdown Menu] (Current selection: Forever) after the recording has finished.

A black arrow points to the "*Status" dropdown menu.

- d. From the Force Start drop-down list (see [Figure 3-67](#)), choose either of these options:
- **Default**—VSMS verifies whether there is enough capacity to store the archive that you are configuring. If there is not enough capacity when you submit the archive, the archive operation does not start and VSMS generates an error message.
 - **Force**—VSMS starts recording even if there is not enough capacity for the archive that is configured. If you choose this option, make sure to provide enough disk space for the archive that you want. If the system runs out of disk space, it begins to delete the oldest retained video to make room for new video.

Figure 3-67 Force Start Drop-Down List

The screenshot shows the 'Start/Schedule a New Archive' configuration window. The 'Details' tab is active. The 'Archive Information' section contains the following fields:

- *Archive Name:
- Description:
- *Status: **Enabled** (dropdown)
- *Force Start: **Default** (dropdown) (Media Server version > 6 only)
- *Keep on Server: **Forever** (dropdown) after the recording has finished.

A black arrow points to the 'Force Start' dropdown menu.

- e. From the Keep on Server drop-down list (see [Figure 3-68](#)), choose the number of days that VSMS retains the archive after the recording stops. The system deletes the archive after this period. If you choose **Forever**, the archive is never deleted.

Figure 3-68 Keep On Server Drop-Down List

The screenshot shows the 'Start/Schedule a New Archive' configuration window. The 'Details' tab is active. The 'Archive Information' section contains the following fields:

- *Archive Name:
- Description:
- *Status: **Enabled** (dropdown)
- *Force Start: **Default** (dropdown) (Media Server version > 6 only)
- *Keep on Server: **Forever** (dropdown) after the recording has finished.

A black arrow points to the 'Keep on Server' dropdown menu.

Step 7 Click the **Archive Type** tab and take the appropriate actions in the Archive Type area to designate and configure the archive type:

- To record during one or more designated periods, see [Figure 3-69](#) and take these actions:
 1. Click the **Simple Schedule** radio button.
 2. In the **Start on** and **End On** fields, specify the start date and the end date for the recording. In the corresponding **At** fields, enter the start time and end time for the recording.

You can type information in these fields, or you can use the calendar in the date fields or the drop-down arrows in the time to select information.

3. (Optional) To designate an additional start/stop schedule, click **Add Date(s)** and enter the desired dates and times. You can repeat this process to designate as many start and stop dates and times as needed.

To remove a start/stop schedule, click **Remove** next to the corresponding schedule.

Figure 3-69 Options for Configuring One or More Recording Periods

The screenshot shows a web-based configuration interface titled "Start/Schedule a New Archive". It has four tabs: "Details", "Archive Type" (which is active), "Backup", and "Rights". Under the "Archive Type" tab, there are three radio buttons: "Simple Schedule" (selected), "Recurring Schedule", and "Continuous Loop". Below the radio buttons, there are two rows of input fields. The first row is for "Start on:" with a date field containing "4/13/2009" and a calendar icon, followed by "At:" with a dropdown menu showing "14" and a time dropdown showing "36". The second row is for "End on:" with a date field containing "4/14/2009" and a calendar icon, followed by "At:" with a dropdown menu showing "14" and a time dropdown showing "36", and a "Remove" link. At the bottom of the form area is an "Add Date(s)" button. At the very bottom of the window is a "Submit" button.

- To designate a regular weekly schedule for recording, see [Figure 3-70](#) and take these actions:
 1. Click the **Recurring Schedule** radio button.
 2. In the **Start On** field, type or use the calendar to enter the date on which the schedule becomes active.
 3. Specify the days on which the recording executes during identical time periods:
 - a. Check the check box that corresponds to each day on which you want the recording to execute identically.
 - b. In the **Start At** and **Stop At** fields, enter the times that the recording starts and stops on the selected day or days.
 - c. (Optional) To add another time interval for the selected days, click **Add Time Range** and enter the start time and stop time in the **Start At** and **Stop At** fields that appear. Repeat as needed to add more time intervals for these days.
 - d. (Optional) To specify other days with different schedules, check the check boxes that correspond to the days, enter start and stop times for as many ranges as desired, and click **Next Weekdays**. Repeat as needed.
 4. Specify whether the recurring schedule ends:
 - To stop the schedule after a designated number of weekly runs, click the **End After** radio button and enter the number of times that the schedule should run.
 - To stop the schedule at the end of the day on a certain date, click the **End by** radio button and enter the stop date.
 - To run the schedule indefinitely, click the **No End Date** radio button.

Figure 3-70 Options for Configuring a Weekly Recording Schedule

Start/Schedule a New Archive

Details Archive Type Backup Rights

Archive Type

Simple Schedule Recurring Schedule Continuous Loop

Start on: 4/13/2009

Assign time range to these week days:

Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Start At: 14 : 36 Stop At: 14 : 36

Add Time Range Next Weekdays

Range End: End After 1 Occurrences

End By: 4/13/2009

No End Date

Submit

- To designate a continuous loop schedule, see [Figure 3-71](#) and take these actions:
 1. Click the **Continuous Loop** radio button.
 2. In the **Loop Duration** field, enter the duration of the loop by entering a number and choosing the time unit from the drop-down list.The system archives video for the duration that you specify.

Figure 3-71 Options for Configuring a Continuous Loop Recording Schedule

The screenshot shows a web interface window titled "Start/Schedule a New Archive". It has four tabs: "Details", "Archive Type", "Backup", and "Rights". The "Archive Type" tab is active. Inside this tab, there are three radio button options: "Simple Schedule", "Recurring Schedule", and "Continuous Loop". The "Continuous Loop" option is selected. Below these options, there is a "Loop Duration" field with a text input containing "1" and a dropdown menu currently set to "Hours". At the bottom right of the form area, there is a "Submit" button.

Step 8 Click Submit.

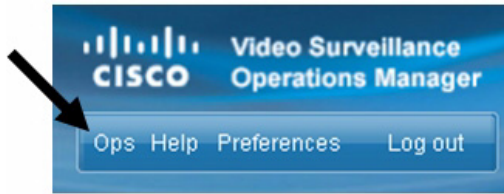
If you configured a continuous loop archive, recording starts immediately. Other recording types start as they are scheduled.

Where to Go from Here

After you complete the basic configuration of VSM and deploy the cameras and encoders (if required) that you added during the configuration process, you should be able to display live video from any camera. To do so, follow these steps:

Procedure

- Step 1** Take either of these actions:
- If you are viewing the VSOM Administrator page, click the **Ops** link near the top left, as shown in [Figure 3-72](#).

Figure 3-72 Ops Link

- Access the VSOM Operations Manager as described in the “[Accessing Video Surveillance Operations Manager](#)” section on page 3-5.

Step 2 Click **Camera Fields** (see [Figure 3-73](#)) to see a list of configured cameras.

Figure 3-73 Displaying Configured Cameras

Step 3 Click the camera from which you want to display video.

For information about configuring advanced options and operating your system, see your Cisco VSM documentation.

